Digest

PROPERTY OF
DENTAL LIBRARY
UNIVERSITY OF OREGON
DON'T MUTILATE OR
REMOVE

IN THIS ISSUE

A Simplified Inlay Technique 278

A Cast Gold Reinforcement for Acrylic Pontics in Fixed Bridges 284

An Anatomic Technique of Occlusal Reconstruction 286

Clinical and Laboratory Suggestions 294

Medicine and the Biologic Sciences 296

The Editor's Page .... 299 Contra-Angles 300

Personal Identification From Dental Records 310

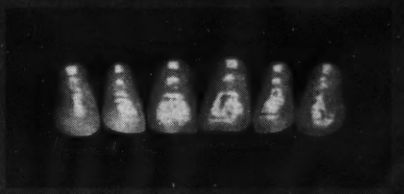
Etiology of Dental Sequelae 314

(Complete Table of Contents on page 277)

USE THE YELLOW TO SEE THE RED
USE THE RED TO SEE THE YELLOW
USE THE LIGHT TO SEE THE DARK
USE THE DARK TO SEE THE LIGHT

A simple answer to the often complex problem
of matching tooth colors accurately is
built-in the Veri-chrome Color Guide.
It is a system of *contrast-comparison*
that you can follow easily, quickly and expertly
to eliminate the likely inaccuracies
of "guesswork" in tooth color selection.
Tooth Color selection by *contrast-comparison*
is possible *only* with the Veri-chrome
Color Guide because of its
systematic arrangement of
dominantly yellow and red tooth colors
in progressive saturations . . . and because
of the controlled brilliance of the colors.

NUFORM TUBE TEETH



DR. FRENCH'S POSTERIORS

BE SURE TO SPECIFY WITH THE
VERI-CHROME COLOR GUIDE

Veri-chrome

tooth colors now available in

FIVE-PHASE ANTERIORS · ANATOMIC ANTERIORS · DR. FRENCH'S POSTERIORS

UNIVERSAL DENTAL COMPANY · 48th at BROWN STREET Phila. 39, Pa.

84,000 *copies sold through June 1, 1947*

You need only to read a few of the enthusiastic comments (see opposite page) about "*Visual Education in Dentistry*" to realize its potential value to *you* in your patient-education program. Over 4000 copies have been sold since the *ninth reprinting* was announced a few months ago.

If you haven't purchased at least one copy of "*Visual Education in Dentistry*" you'll want to enter your order without further delay. Once you use these charts in *your* practice you'll use them always. Tangible evidence that thousands of your colleagues are using them constantly is the fact that the current edition is the ninth reprinting.

Perhaps Your Present Copy Is Worn

If you already have a copy of "*Visual Education in Dentistry*" and have used it as much as most practitioners have, perhaps the booklet is worn and needs replacing. Despite higher production and paper costs the price of the latest reprinting is still only $1.00 to regular subscribers to Dental Digest. To non-subscribers the price is still $2.00 unless purchased with a special subscription (see coupon).

Order Two Copies . . . One For Your Reception Room . . . One For Your Operatory

Many practitioners are ordering two copies of "*Visual Education in Dentistry*" at this time. The material is invaluable for reception room use and for use at the chair. Patients are interested in the charts. *The material helps them realize the value of periodic dental treatment and the dangers of neglect.* Isn't this realization worthwhile in any dental practice?

The coupon is for your convenience in ordering now. If you are not a subscriber you'll want to take advantage of the special combination subscription offer mentioned in the coupon. A better investment at small cost cannot be made.

DENTAL DIGEST, 1005 Liberty Ave., Pittsburgh 22, Pa.

☐ I am a subscriber to DENTAL DIGEST. Please enter my order for 1 ☐ copy; 2 ☐ copies of Visual Education in Dentistry. My remittance at the rate of $1.00 per copy is enclosed herewith.

☐ I am not a subscriber. Please enter my name on the list for 8 issues of DENTAL DIGEST and one copy of Visual Education in Dentistry for $3.00. My remittance is herewith.

Dr. .....

Address .....

Dealer .....

Contents

1. Dental Conditions
2. Development and Eruption of Teeth
3. The Progress of Tooth Decay
4. Why Construct a Bridge?
5. How Irregularities of the Teeth Affect the Face
6. Modern Porcelain Restorations
7. The Expense of Poor Dentistry
8. The Development of Root End Infections
9. A Stitch in Time Saves Nine
10. When the Dentist Fills the Tooth
11. "Things Are Not Always What They Seem . . ."
12. The Development of Jaws and Teeth
13. Diseases of Teeth and Trees
14. The Collapsed Face
15. "Be Not the Last to Lay the Old Aside . . ."
16. The Foundation's the Thing
17. Insulation
18. "One Rotten Apple May Spoil a Bushel"
19. The Circulation of the Blood
20. Pyorrhea Treated or Neglected
21. The Action of Local Anesthesia
22. "A Little Neglect May Breed Mischief . . ."
23. The Fifth Cranial or Trigeminal Nerve
24. Danger Begins at Six
25. How a Full Denture Fits
26. How the Loss of Teeth Affects the Face
27. The Danger from the Impacted Tooth
28. What Does the X-Ray Show?
29. The Requirements of a Correct Restoration
30. Development of the Skull

UNIVERSAL DENTAL COMPANY · 48th at BROWN STREET · Phila. 39

a case of underestimation

Take a denture material born of the joint research of Du Pont and Caulk . . . two great names in the fields of plastics and dental materials.

Give it the benefit of continuing improvement, through cooperative research.

One would expect such a material . . . Lucitone . . . to gain wide acceptance by dentists and laboratories.

It has.

But we hardly expected such overwhelming approval!

Dentists and laboratories who have used Lucitone from the start say that 1947 Lucitone is better than ever.

Others, using Lucitone for the first time, say that this improved material substantially widens the scope of prosthetic science.

All agree that today's Lucitone sets new standards in:

NATURAL, LIFELIKE APPEARANCE. Honeycombed with light, the mottled, translucent "tissue texture" of 1947 Lucitone permits a higher degree of individuality in the denture.

STRENGTH. In both full and partial dentures, 1947 Lucitone has more than enough strength to withstand normal shocks and stresses under mouth conditions.

CONTINUING FIDELITY OF FIT. In the formula of 1947 Lucitone lies the ideal answer to unfailing dimensional stability.

WORKABILITY. On the laboratory bench, 1947 Lucitone is free from all technic restraints that may lead to inaccuracies in construction.

DU PONT

Lucitone

REG.U.S.PAT.OFF.

For modern materials call on *Caulk* Milford, Delaware

Vol. 53, No. 6

Dental Digest

JUNE 1947

A Simplified Inlay Technique
Charles L. Hyser, D.D.S. 278

Cancrum Oris (An Abstract) 283

A Cast Gold Reinforcement for Acrylic Pontics in Fixed Bridges
D. T. Barcroft, D.D.S. 284

Fluorine Therapy (An Abstract) 285

An Anatomic Technique of Occlusal Reconstruction
Jerome M. Schweitzer, D.D.S. 286

Clinical and Laboratory Suggestions 294

1. Pickling Technique for Gold Inlays. 2. A Simple Method of Separating the Jaws. 3. Cleaning Inlay Patterns. 4. A Laboratory Instrument Holder. 5. Weighing Cristobalite and Control Powder. 6. Cleaning Diamond Stones and Points.

Medicine and the Biologic Sciences 296

The Editor's Page ..... 299 Contra-Angles 300

Personal Identification From Dental Records (An Abstract) 310

Etiology of Dental Sequelae (An Abstract) 314

About Our CONTRIBUTORS

CHARLES L. HYSER, D.D.S. (New York University, College of Dentistry, 1917) presents A SIMPLIFIED INLAY TECHNIQUE as his first contribution to the DIGEST. Described are the preparation, the impression, and the bite in the production of an indirect inlay for a lower right first bicuspid. Doctor Hyser's general practice has included six years of research in administrative procedure.

DWIGHT T. BARCROFT, D.D.S. (Northwestern University, Dental School, 1922) suggests a cast gold framework for reinforcing acrylic pontics in fixed bridges. Detailed instructions are given for constructing this reinforcement, which extends into the lingual and buccal cusps, and a number of advantages in its use are cited.

Incorporated in AN ANATOMIC TECHNIQUE OF OCCLUSAL RECONSTRUCTION by JEROME M. SCHWEITZER, D.D.S. (New York University, College of Dentistry, 1918) are a number of principles basic to prosthetic procedures. Doctor Schweitzer's recently published book, RESTORATIVE DENTISTRY (C. V. Mosby Company), is convincing evidence of his wide experience in dental prosthesis. Like his frequent contributions to the dental literature, this volume is generously illustrated with clear photographs; detailed in its step-by-step presentation, and comprehensive in scope. It is the impressive product of a true clinician.

EDWARD J. RYAN, B.S., D.D.S., Editor

MARIAN ZIERATH, B.S., *Assistant Editor*

708 Church Street, Evanston, Illinois

Copyright, 1947, by Dental Digest, Inc. See page 275 for subscription data, etc. The magazine is mailed on the fifteenth of the month of issue.

A *Simplified* INLAY TECHNIQUE

CHARLES L. HYSER, D.D.S., New York City

DIGEST

A technique is described for producing an indirect inlay so accurate in fit that virtually no time need be wasted in the final finishing and setting of the inlay. Preparation of a cavity in a lower right first bicuspid with diamond stones is demonstrated and the taking of an inlay wax impression within a modeling compound matrix and of a bite is described. Two variations of impression-taking methods using bite impression techniques are also presented.

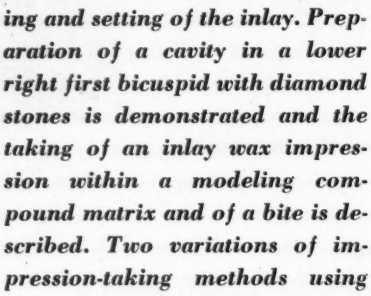
OVER A PERIOD of many years, we have continually tried to simplify procedures involved in the making of inlays and jacket crowns and in other operative and prosthetic techniques. This exposition of some of these methods is offered in the hope that it may be helpful.

This article deals with the indirect inlay: the preparation, the impression, and the bite. A distal cavity in the lower right first bicuspid has been chosen for demonstration mainly because it is easiest to describe. The principles involved, however, are applicable to all inlay preparations.

Instruments

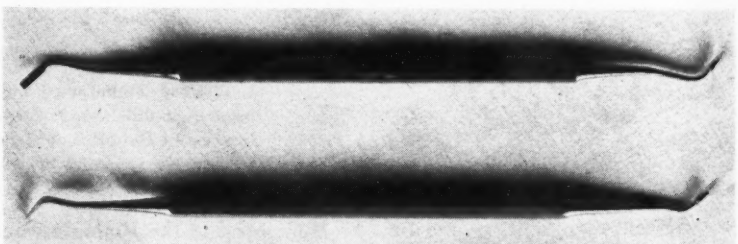
This technique involves only few instruments and is based largely on the use of diamond stones (Figs. 1, 2, and 3). The other instruments illustrated are a set which we had made many years ago (Fig. 4): On one end is a plugger which reverses the angles of the usual plastic instrument and is a great help in forcing the cement into the cavity without forming undercuts; the other end is a cutting and plastic instrument in one, designed to force the cement into place and to allow for trimming and shaping at the same time.

1. *Diamond instrument for making original cut and slice.*



2. *Diamond instrument for cutting occlusal surface and diverging distobuccal and distolingual walls.*

3. *Diamond instrument for beveling and finishing occlusal margins.*



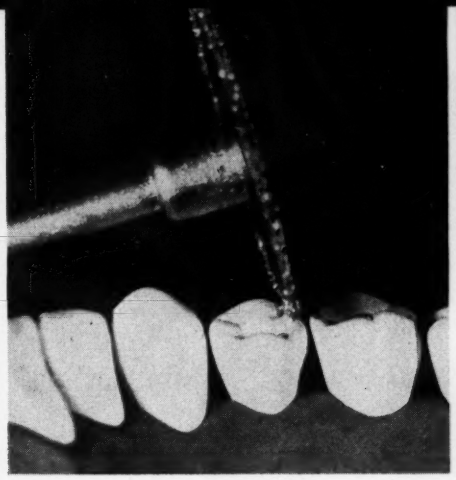
4. *Plastic instruments for placing and trimming cement linings.*

Preparation

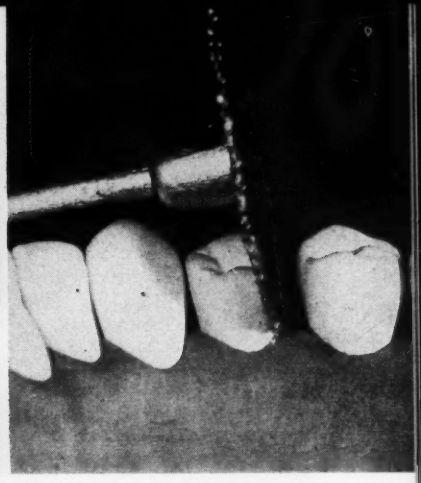
The type of cavity to be prepared is illustrated in Figure 5.

1. To start the preparation, the large diamond disc is set close to the distal marginal ridge at the angle il-

5. *Type of cavity to be prepared.*



6. *First cut. Note angle of instrument.*



7. *The slice completed.*

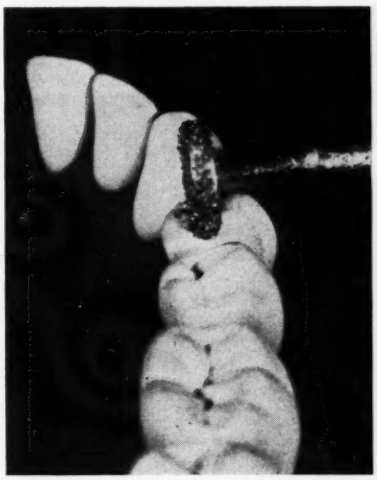
lustrated in Figure 6. The disc is run at a high speed with little pressure and a light touch. This resulting cut is carried to just below the gingival margin (Fig. 7).

2. The next diamond stone to be used is the square-edged diamond (Fig. 12). It is placed on the occlusal surface of the tooth and carried from the cut made by the previous stone to the anterior marginal ridge well below the occlusal enamel, care being taken not to cut the anterior marginal ridge (Figs. 8 and 9).

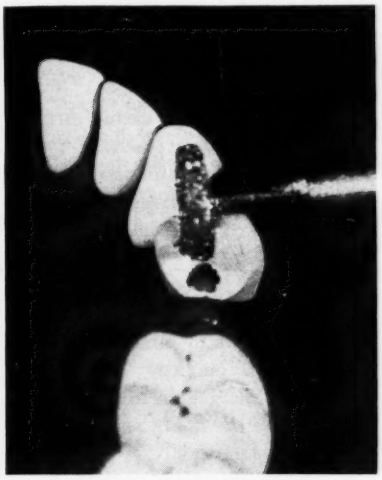
3. The floor of the occlusal surface is next flattened with the fissure bur in the right angle handpiece (Fig. 10), the lines of the cut made by the diamond stone being followed. Inasmuch as the enamel has been largely eliminated, this cut is fairly rapid. This same bur is used to eradicate the mesial sulcus for retention of the inlay.

(I want to stress the importance of the angulation of this bur wherever it is used. This angle is exaggerated in Figure 11. If the angle of the bur is "studied" while operating, the floors of the cavities can be flattened and the walls diverged by a single operation.)

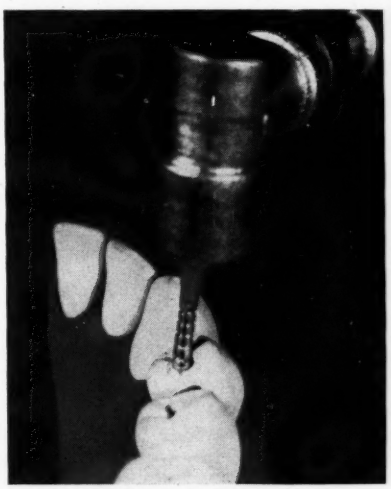
4. The next cut carries the fissure bur down through the distal slice (Fig. 12). This cut is simple because the enamel has been removed by the diamond disc. Here, again, the angulation of the bur is important. If the bur is properly controlled, the floor can be flattened, the lingual and buccal walls diverged, and the pulpal wall properly angled by the one operation (Fig. 13).



8. *Position and angle of second cut.*

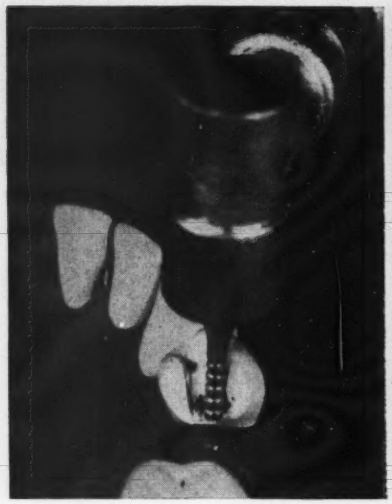


9. *Occlusal fissure opened.*



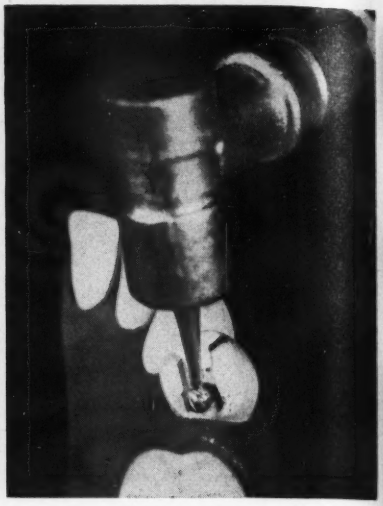
10. *Cross-cut fissure bur the approximate width of the diamond's cut.*

11. *Exaggerated position of instrument to illustrate method of diverging walls.*



12. ***Shaping distogingival floor and pulpal wall.***

13. ***Angle of instrument in cutting distal walls.***



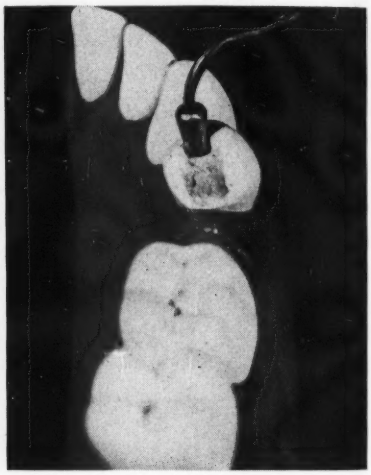
14. ***Removal of caries with large round bur.***

5. At this point, the carious area is almost completely exposed. A round bur, as large as is compatible with the size of the cavity, is used to eliminate all vestige of caries (Fig. 14).

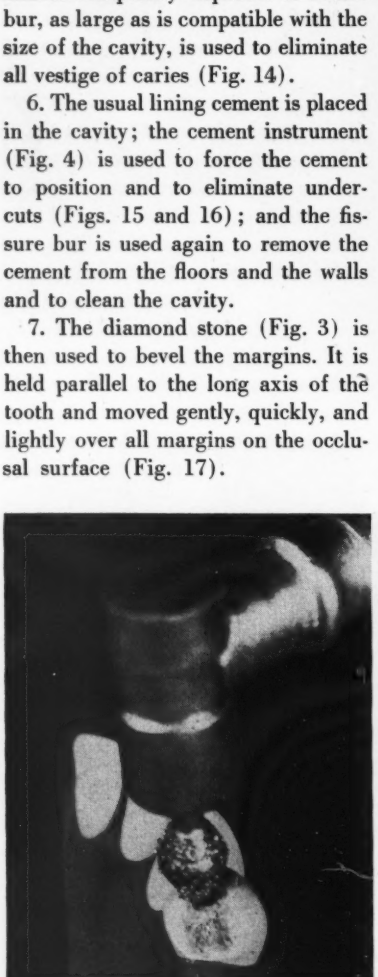
6. The usual lining cement is placed in the cavity; the cement instrument (Fig. 4) is used to force the cement to position and to eliminate undercuts (Figs. 15 and 16); and the fissure bur is used again to remove the cement from the floors and the walls and to clean the cavity.

7. The diamond stone (Fig. 3) is then used to bevel the margins. It is held parallel to the long axis of the tooth and moved gently, quickly, and lightly over all margins on the occlusal surface (Fig. 17).

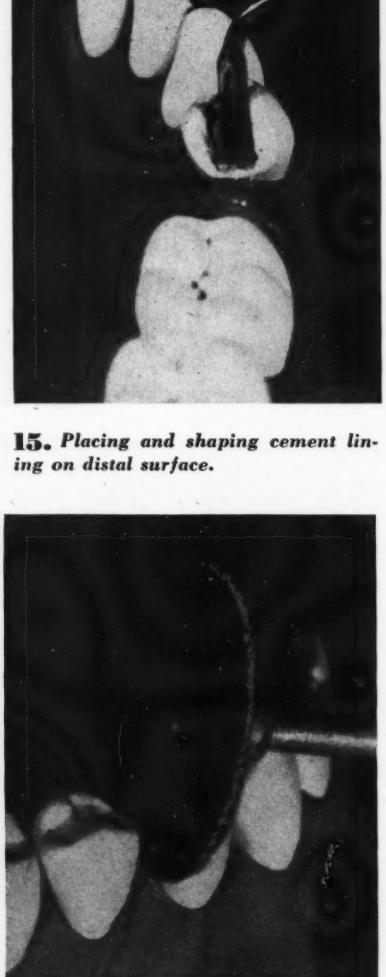
15. ***Placing and shaping cement lining on distal surface.***



16. ***Shaping cement into occlusal surface.***

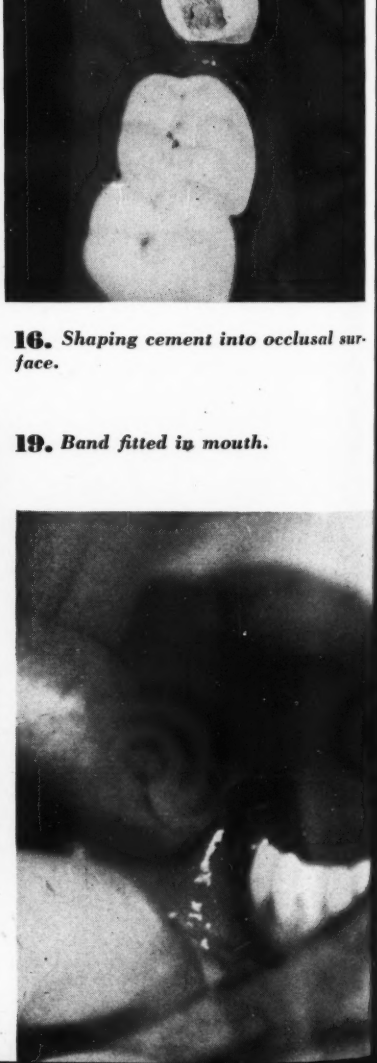


17. ***Beveling occlusal margins.***



18. ***Final finishing with medium-coarse sandpaper disc.***

19. ***Band fitted in mouth.***



20. *First impression showing escape of excess compound.*

21. *First impression.*

22. *Finished impression showing escape of wax.*

8. The final finishing is done with a medium-coarse sandpaper disc on the distal walls (Fig. 18). The disc is used lightly and at the proper angle, the cut being made from the gingival to the occlusal surface.

The Impression

There are, of course, many ways of taking an impression of a cavity for an indirect inlay of the type described here. The first technique suggested is a variation of the usual copper band method.

1. The band is fitted loosely to the tooth, not accurately at any point. A band at least one size too large is preferred. (The only place which *is* carefully fitted, in a case such as this one, is at the mesial contact point. Here it is well to remove only as much of the band as is needed to allow the distal section to pass slightly beyond the distal gingival floor [Fig. 19]).

2. A hole is then cut with a round fissure bur into the distal portion of the band above the contact point. (The hole will permit the flow of compound from within and allow the escape of any air which might have been trapped [Fig. 20]).

3. Modeling compound is softened by heating and placed into the band; then forced down into the tooth in the usual manner.

4. The impression is slightly chilled and removed.

5. This rough impression is then chilled and dried (Fig. 21).

6. The hole, which has been previously put into the band, is cleaned out again with a fissure bur.

7. A stick of Kerr's inlay wax is heated and a few drops of the wax allowed to fall within the impression. When this wax is just past the liquid stage and before it jells, the impression is carefully put back into position and forced home. The excess wax escapes through the hole which had been put there for that purpose.

This impression is an inlay wax impression made within a modeling compound matrix (Fig. 22). It should be an accurate reproduction of the minutest detail; if it is not, then reheat lightly, replace, and force it home again. Other methods of impression-taking will be described later.

The Bite

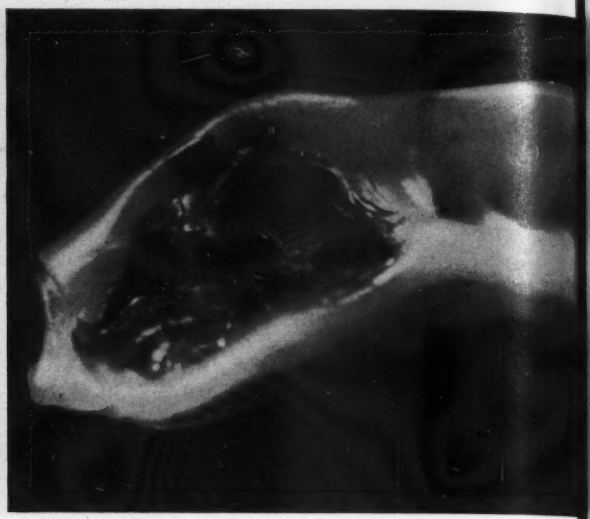
There is no one step in the making of an indirect inlay which is more important to success than any other. The bite, however, is probably the step which will save the operator the most time and energy if carefully executed.

1. A standard size sheet of hard

23. *Wax in position for bite.*

24. *The bite.*

25. *Completed bite with inlay wax forced to position.*



26. *An inlay can be made on nothing more than this bite impression.*

wax, such as the baseplate Tru-wax, is divided into thirds, a sheet being made approximately three inches by two. This is gently heated, not to the point where the wax is liquified on the surface but merely made pliable. It is then folded over on itself four times, a thickened strip three inches by one-half inch being formed. This is broken in half and a sheet of cellophane inserted between both halves.

2. The strip is centered on the occlusal surfaces of the teeth with the inlay preparation as near to the center of the wax as possible (Fig. 23).

3. The patient is then made to bite in proper centric position (Fig. 24).

4. The wax is thoroughly chilled, removed, and carefully dried. Again the stick of inlay wax is used in the same way as described in the impression-taking technique.

5. The bite is carefully reinserted in its proper position, retaken, and chilled with ice water before being removed (Fig. 25).

This will give an accurate detail of the cavity preparation, the contact point, and a sharp delineation of the opposing cusps. The die can then be inserted in this wax with absolute accuracy.

27. *The copper bands flanged and fitted.*

28. *Patient has closed and the wax is now ready to be pressed around copper bands.*

Variations of Impression-Taking Methods

It will be noted that in the modeling compound technique and in the methods to be taken up now, the original material, that is, the compound or the wax, acts mainly as a matrix to force the inlay wax to position. The impression from which the die is finally made is in hard inlay wax, the same material that is used in the direct pattern technique. All distortions are plainly visible for correction and the minutest detail of the preparation clearly defined. Two ways of using the *bite impression technique* follow.

1. In making an inlay for an occlusal, a linguoclusal, or buccoclusal cavity, where the contact point is not a factor, the bite impression technique is used.

a) The bite is taken exactly as previously described.

b) Into the cavity or cavities defined in the wax bite, heated hard inlay wax is dropped either from the stick or from a spatula.

c) This wax is replaced and the patient's bite is closed in proper position, the newly applied wax being forced directly into the cavity.

d) This, then, is thoroughly chilled and carefully removed (Fig. 26). (It is possible to take two or more impressions in the same bite.)

29. ***Complete impression. (Due to photographic problems, the bicuspid is out of focus.)***

e) The side of the wax showing the impression of the cavity is copper-plated and the bite is then poured in the usual manner.

The finished product is an articulated bite with a copper model on which to carve the inlay wax and a copper die on which to polish the finished inlay. By careful control of the temperature of the wax, an impression of the cavity made by this method gives great detail and clarity of line.

2. There is still another way to use the bite impression technique. This method is particularly adaptable in a case where two inlay cavities have been prepared for bridge attachments; for example, in a missing lower first molar. Both impressions may be taken and an accurate bite secured with one operation.

a) Copper bands are fitted as previously described with this exception: The bands are trimmed on the occlusal surface to permit the closing of the bite (Fig. 27). (This can be done by trimming the band low over the cavity area and by cutting small sections in the buccal and lingual sides of the bands. These sections are then flanged out sufficiently to permit the patient to close without pressing the band into the gingiva and to a degree that permits easy closure.)

b) The wax bite is taken just as before but previous to the chilling, the wax is firmly pressed buccally and lingually to engage in the flanges on the bands (Fig. 28).

c) The patient is again instructed to bite in centric position and the wax is chilled. The pink wax will be forced down into the cavity but will not give any definition at this point.

d) Kerr's blue inlay wax stick is again used to flow the blue wax into and around the copper bands as they rest in the wax bite.

e) The whole section is then carefully replaced and the patient again bites. (This bite will force the blue wax well down into the cavity and give an exact definition of the minutest detail [Fig. 29]).

f) This bite and the impressions are treated as before; that is, copper plated and poured.

For convenience in removing the dies for polishing and finishing, it is wise to take an extra bite into which to insert the copper dies.

Conclusions

1. All procedures described depend on the copper-plating methods of making dies; amalgam dies obviously are not adaptable.

2. Some experimentation will be necessary to learn how to handle the wax and control the temperatures.

If these points are clear, anyone following these methods will produce an indirect inlay so accurate in fit that virtually no time need be wasted in the final finishing and setting of the inlay into position in the mouth.

5 *East 57th Street.*

Editor's Note: The necessity for extreme closeups of the bite and impression caused highlights on the wax which created photographic problems.

Cancrum Oris

A RISE in frequency of cancrum oris (noma or gangrenous stomatitis) was noted during the later years of the Japanese occupation of the Philippines and a decrease again in 1946. Observers think that this can be attributed to the scarcity of food and to poor hygienic and living conditions prevailing during the period of occupation.

Of fifteen cases of cancrum oris seen in one year, only two died. This mortality rate of less than 14 per cent compares most favorably with mortality rates of from 70 to 100 per cent reported earlier. The favorable results are ascribed to the combined use of sulfonamides and penicillin.

1. The mouth was first cleansed with an antiseptic solution, usually dilute potassium permanganate; sulfathiazole or sulfadiazine powder was applied locally to the lesions.

2. In addition, eight patients received either sulfathiazole or sulfadiazine by mouth.

3. Seven patients were given sulfathiazole or sulfadiazine by mouth *and* penicillin intramuscularly. The dose of penicillin varied from 100,000 to 250,000 units daily. *All* of these recovered.

From Current Medical Literature, *Journal of the American Medical Association* 132:816 (November 30) 1946.

A CAST GOLD REINFORCEMENT

for Acrylic Pontics in Fixed Bridges

D. T. BARCROFT, D.D.S., Chicago

DIGEST

A method is suggested for strengthening acrylic pontics in fixed bridges. A gold framework is cast which extends into both the lingual and buccal cusps. Its design supplies strength, without requiring the use of a large amount of gold; permits the carving of each tooth to correct contour, and provides for adaptations to most variations in occlusion, even to the extent of grinding into the gold framework after the bridge is completed. The reinforced pontic has a large bulk of acrylic.

VARIOUS forms of reinforcement have been used in fixed bridges since the advent of plastics for use in this type of dental replacement. Most reinforcements have had a tendency to cut material in two, allowed a lingual or a buccal cusp to break, or a pontic to split through the center. To prevent these accidents it was decided to make a form of reinforcement that would extend into both the lingual and buccal cusps and, at the same time, be so formed that each tooth could be carved to correct contour.

Although at first glance this framework looks rather difficult to construct, it is quite simple if each step is carried out as illustrated. And it is flexible enough to provide for adaptations to most variations in occlusion. In adjustments in occlusion after the bridge is set, one can even grind into the gold framework without any bad effects; in fact, the exposed reinforcement looks like gold foil on the occlusal of a pontic.

Preparation of Abutments

In preparing the abutments for receiving the reinforcing framework, it is advisable to cut a V-shaped groove in the mesial surface of the molar abutment (inlay) (A in Fig. 1) and a similar groove in the distal surface of the bicuspid abutment if both ends are to be soldered. When waxing the "framework," the wax is compressed into these grooves. This helps to eliminate torque when the abutments are soldered to the reinforcing framework. The cast framework fits perfectly into the grooves so that there is no possibility of its slipping while the impression for soldering is being taken. Only a small piece of solder needs to be sweated into the crevice between the framework and the abutment, which makes for a strong attachment.

In a short bridge replacing a single tooth, where the anterior abutment has a "rest" in the inlay, the framework is cast to fit the "rest." The "rest" is cut into the inlay if one is present; otherwise, the anterior abutment is prepared for an M.O.D. inlay and this inlay is carried into the impression along with the posterior abutment. The "rest" is then cut into the inlay after it is on the model.

Reinforcement Framework

In making the reinforcement framework, use 14-gauge and 18-gauge round wax.

1. The 14-gauge wax is pressed into the groove in the abutment, carried down to and then across the ridge, and up into the groove of the other abutment (B in Fig. 1).

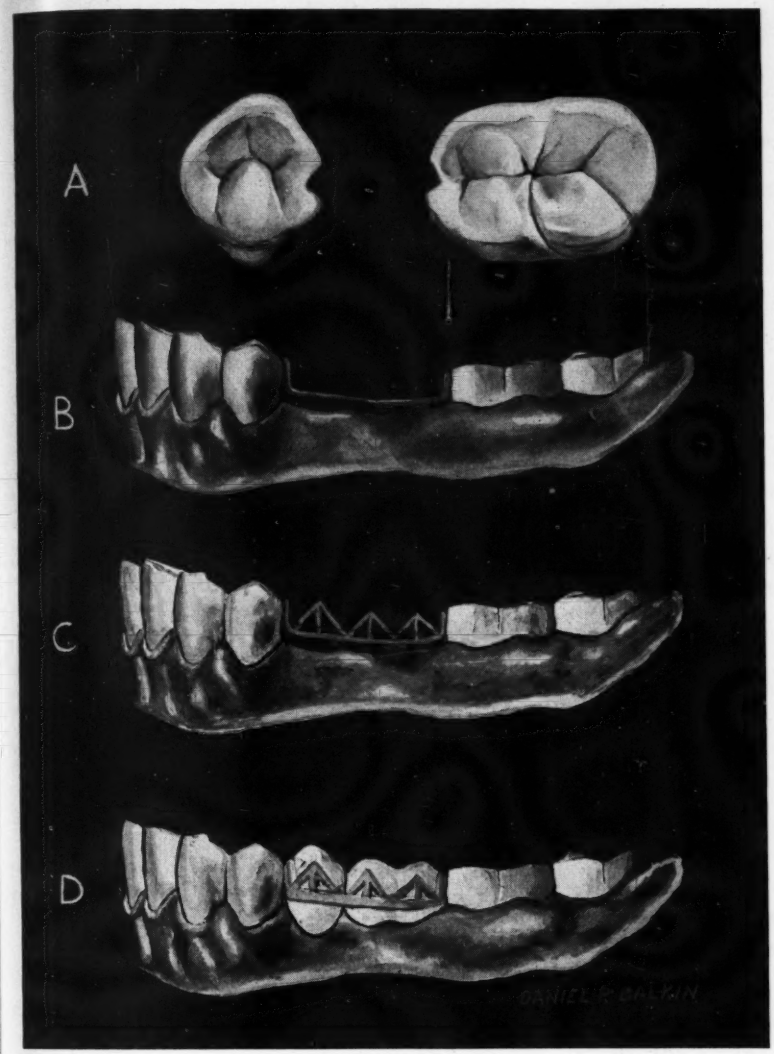
2. A thin-bladed spatula is slipped under the wax on the ridge and the wax gently lifted about one millimeter off the ridge to make room for the acrylic.

3. For each pontic a piece of 18-gauge round wax is extended first into the buccal cusp and then into the lingual cusp from the 14-gauge base wire. A support is extended down on each side of this central support (C in Fig. 1). D in Figure 1 shows the framework on the buccal of a first molar (with a little variation) and second bicuspid.

4. A similar reinforcement is arranged on the lingual.

5. A small pointed wax spatula is used to lute the wax to the 14-gauge foundation.

The 18-gauge superstructure strengthens the 14-gauge bar. There is a V space in the center of the framework which gives a maximum bulk of acrylic and a V space between each pontic makes it possible to carve the buccal, lingual, and occlusal surfaces to correct contour without interference from the reinforcement.



1. ***A, V-shaped groove in mesial of molar abutment (and another in distal surface of bicuspid, if both ends are to be soldered) tends to prevent torque when the abutments are soldered to the framework. B, 14-gauge wax extends from groove to groove across the ridge. C, vertical and oblique supports of 18-gauge wax extend into the buccal and lingual cusps from the base wire. D, buccal view of framework in first molar and second bicuspid.***

This reinforcement will be found to be exceptionally strong and light and to require a minimum of hard gold.

On very short or very narrow pontics replacing one tooth, the reinforcement can be modified by using a gold occlusal if one thinks this advisable (and we do).

Comment

It is a little difficult to demonstrate this idea but once it is grasped, the framework is quite simple to make and takes little time. The hot spatula quickly lutes the wax wherever this is desired and cuts it off to whatever length is required. In addition, it reduces the wax framework where it interferes with the occlusion, to make room for acrylic.

4816 *North Western Avenue.*

We Can't Pay You, But—

No DENTAL author can ever be *paid* for a valuable technical or scientific article. The value of such material is above a monetary basis. In the preparation of a technical article, however, an author often expends money for drawings, photographs, models, or graphs. We should like to help defray some of these expenses.

Until further notice, DENTAL DIGEST *will allow* $25.00 *toward the cost of the illustrations provided by the author of every article accepted.*

If you have a constructive idea, an innovation, a new result of tried and proved experiment, put it down in writing, illustrate it, and send the material to: DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

We hope that you will accept this invitation!

Fluorine Therapy

THIS IS a critical evaluation of published reports of researchers' conclusions as submitted by graduate students at the University of Michigan School of Dentistry.

Q.—What reduction in the caries attack rate may we expect from the topical application of fluorine as a 2 per cent NaF solution?

A.—Knutson's studies on a group of 289 Minnesota school children with 326 children as controls showed that over a two-year period there were 39.8 per cent fewer new caries in the treated than in the untreated teeth. Seven to fifteen topical applications of a two per cent sodium fluoride so-

(*Continued on page* 315)

An Anatomic Technique of OCCLUSAL RECONSTRUCTION

JEROME M. SCHWEITZER, D.D.S., New York City

DIGEST

The following points in dental prosthesis are illustrated by this procedure of reconstruction:

1. There can be a decided shifting of the occlusal relationship in a short time.

2. Where there is disharmony between centric occlusion and centric relation and the occlusion is reconstructed, the reconstruction should be so planned that centric occlusion and centric relation coincide.

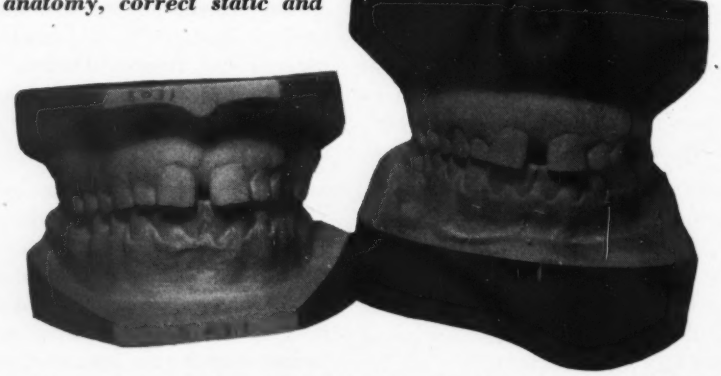
3. In reconstructive procedures it may be necessary to check the centric relation record by both a wax record and a central bearing point instrument for accuracy.

4. Esthetics, arch form, occlusal anatomy, correct static and dynamic cusp relationships in centric relation as well as in protrusive and lateral relations must be considered in reconstructive procedures.

5. Multiple abutments should be used wherever possible to support fixed bridges.

6. Where acrylic is used in fixed bridges it should be supported by hard gold to withstand wear; otherwise, the correct occlusal relationship will not be maintained for any length of time.

7. In extensive fixed bridge procedures it is always best to cement the bridge temporarily rather than permanently to observe the tissue reaction.



1. ***Models on left were taken in March 1944; models on right in March 1946. Notice marked change in anterior space in two years' time; also, alveolar resorption between anterior teeth.***

THE PATIENT, a woman in her thirties, presented herself for treatment in March 1944. I referred her to an orthodontist but after having study models made, she refused treatment. The patient returned to me for treatment in March 1946.

Figure 1 indicates the changes which occurred in the size of the arch and the relationship of the teeth in two years. The upper centrals had spread farther apart; they showed when the lips were in repose and were unsightly in a lateral view of the face (Figs. 2 and 3); their axial inclination was severe and deep periodontal pockets had developed around them.

Condition of Teeth at Start of Treatment

1. Mandibular teeth: All present except the two first molars. Two fixed bridges replaced these. (They had been inserted since patient's previous visit in 1944; the second bicuspids and molars were used as abutments.)

2. Maxillary teeth: All present except left third molar.

a) Right first bicuspid: A temporary filling covered a deep cavity. (The roentgenogram indicated a pseudoexposure.)

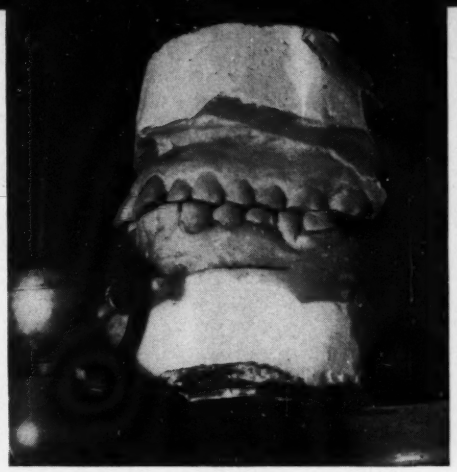
b) Centrals: Unusually large.

c) Laterals, right cuspid, and bicuspids: Unusually small due to very short crowns.

The anterior upper labial plate of bone protruded, giving a protruded appearance to the lips which caused the patient considerable annoyance and anxiety (Figs. 2 and 3).

2. *Profile showing protruded lip and central teeth.*

3. *In rest position, upper centrals are exposed between lips.*

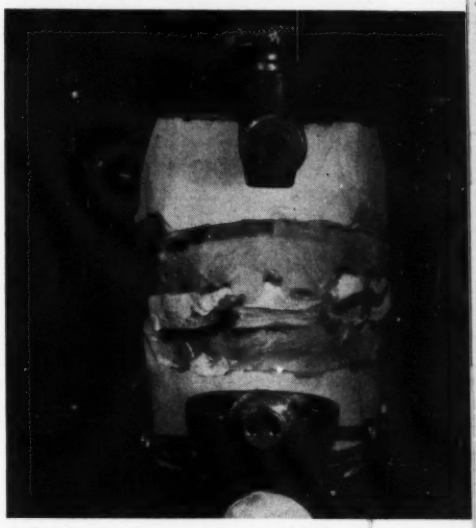


7. *and* **8.** *Right and left sides of models in functional position. The mandible comes forward to assume this position of greatest cusp contact. The condylar metallic balls are not against their anterior stops in the condylar slots.*

Centric Relation versus Centric Occlusion

Not knowing just where to place her teeth together was another considerable source of annoyance to the patient. She seemed to have several bites and never knew which one was correct. My observation was that the bite of convenience, during which cuspal interdigitation occurred, was only a functional bite (centric occlusion) with the mandible in protrusion. In assuming its correct centric relation, the mandible dropped back to a posterior position. Here the molars contacted prematurely, the cuspal interdigitation was chaotic, and neither the upper centrals nor laterals contacted the lower teeth. In the functional bite, however, the laterals contacted (Figs. 4 and 5).

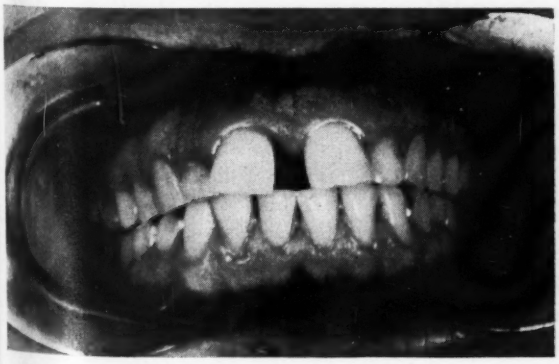
Two sets of master models were made from alginate impressions. One set was set aside as a permanent record, the other mounted by means of facebow and plaster indexes in centric relation (Fig. 6). The models could be articulated in the functional position as shown in Figures 7 and 8 but the condylar heads were not against their stops in the condylar slots, thereby indicating a protruded position of the mandible. When the condylar heads *did* contact their an-

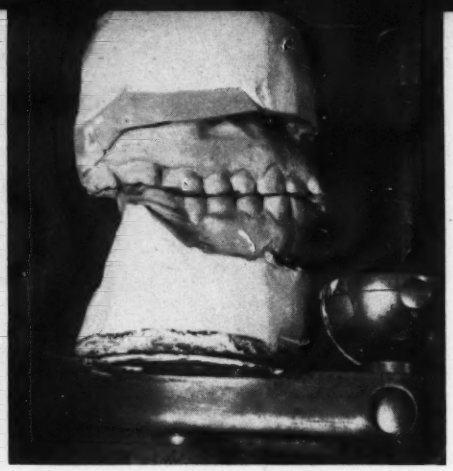


6. *Soft plaster was interposed between teeth in true centric relation. Models mounted by means of face bow and protrusive wax bite.*

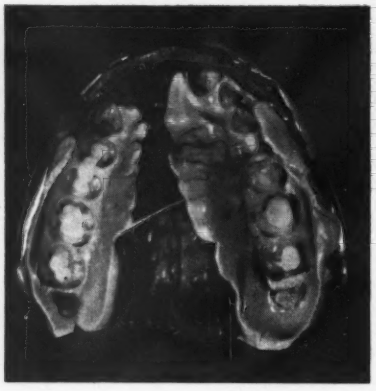
4. *View taken in March 1946 before treatment was started. This is a functional position, not true centric relation.*

5. *In true centric relation there is premature contact posteriorly and none anteriorly. (Here the head is tipped backward to demonstrate the faulty relationship.)*

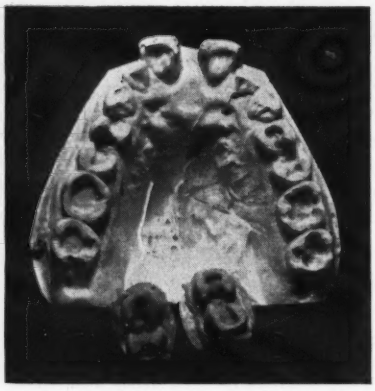




9. *and* **10.** *True centric relation. The cusps are interdigitated in excentric chaotic positions but the condylar heads are against their stops. Posterior contacts; no anterior contacts.*

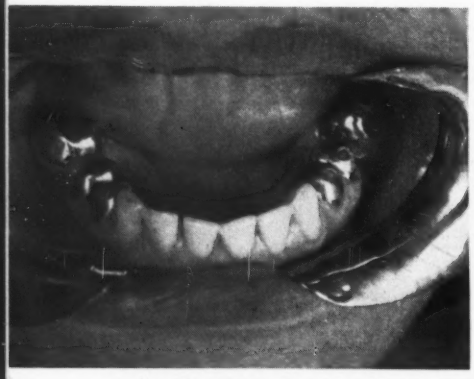


11. *Hydrocolloid impression of eight upper posterior preparations. Modeling compound used as base.*



12. *First diolite model poured from upper impression. (Wherever the preparations involve interproximal surfaces, double dies are taken off on which to finish waxing.) Another diolite model was poured from same impression to be used later.*

terior stops in the condylar slots, the occlusal discrepancies were exactly as portrayed in the mouth (Figs. 9 and 10).



13. *Gold transfers with windows in position on lower prepared teeth. Used to position copper-plated dies. A full lower plaster impression will now be taken.*

Reasons for Reconstruction

1. To reestablish correct centric relation wherein the cuspal relationship would be a harmonious one.

2. To attempt to correct the maxillary protrusion by the removal of the upper anterior incisors and replacement with a fixed or removable restoration in order to retrude the entire anterior segment of the arch lingually and allow it to contact the lower anterior teeth.

3. To produce better esthetics by surgically cutting back the gingival tissue above the upper right cuspid and first and second bicuspids in order to give these teeth an appearance of being longer.

Reconstructive Procedure

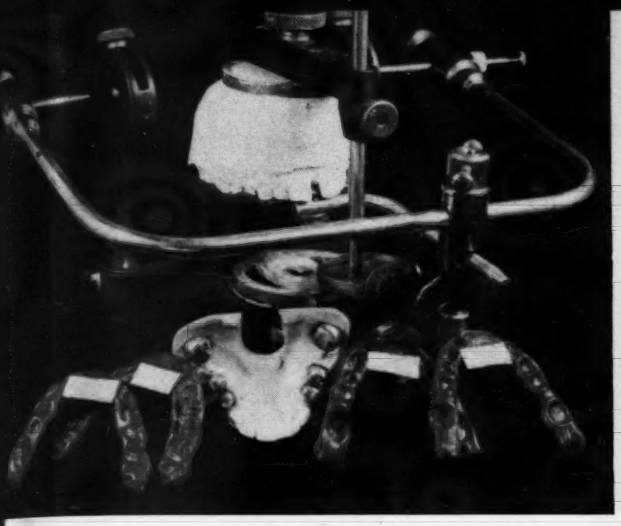
1. Photographs, full mouth roentgenograms, and models were made from alginate impressions, one set being set aside for a permanent record, the other set mounted upon the Hanau model H articulator for study (Figs. 1 to 10).

2. Under local anesthesia the upper right third molar was removed. (It had no lower antagonist and had extruded.)

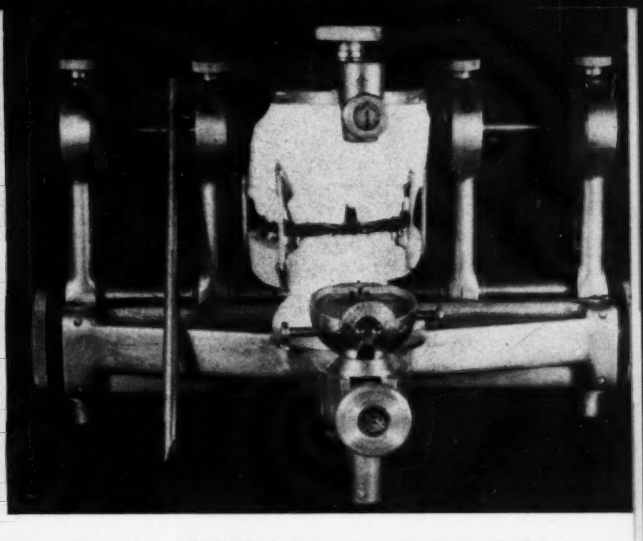
3. *Upper Posteriors*—All upper posterior teeth were prepared for gold inlays, temporary splints of base metal being used to protect the teeth. These were cemented with Wonderpac. A full upper impression was taken in hydrocolloid and two diolite models were poured (Figs. 11 and 12).

4. *Lower Posteriors*—All the lower posterior teeth were prepared for full cast crowns. The right and left preparations were paralleled so that the three abutments; namely, the two bicuspids and second molar, could be soldered together in making the two fixed bridges which restored the lower first molars. Copper band modeling compound impressions were taken of each preparation and copper-plated dies were made. Gold transfers with an occlusal window were cast for each die and tried on each lower posterior tooth (Fig. 13). (The windows made it possible to see if the transfer was completely seated.)

5. A kinematic face-bow record was taken. A centric relation and protrusive wax bite were taken with the upper temporary splints removed (directly against the upper preparations). Right and left lateral wax bites were taken. These waxes were first molded to the upper diolite model. The wax surface which fitted into the upper teeth was chilled and the undersurface facing the lower teeth evenly heated. In this manner unstrained relational wax records were taken which could be transferred back to the models with accuracy. A full lower plaster impression was taken engaging only the tooth surfaces and not the soft tissue. The gold transfers were removed from the lower teeth



14. ***Upper diolite model (second made from hydrocolloid impression) mounted to model H articulator by means of a kinematic face bow. (This face bow locates the condylar axis of rotation. It is obtained by placing a well-fitted baseplate, attached to mandibular teeth, to the face bow. By having the patient open and close about one-quarter to one-half inch, the axis is located and marked. Then the face bow is changed to a regular one and the registration is made the same as with the Snow face bow.) In foreground is lower working model and four bite waxes; namely, centric relation, protrusive and right and left lateral wax records.***



15. ***Final mounting done on Hanau Kinoscope. (This requires wider face bow than the kinematic face bow so model is mounted first upon model H and then transferred.) This articulator is now set by means of wax records shown in Figure 14.***

and placed back into the plaster impression. The dies were placed in the transfers and a lower working model was poured.

6. *Coordinating Restorations*—The upper model was mounted on the Hanau model H articulator by means of the kinematic face-bow record. (This was the second upper model which had been drawn off the hydrocolloid impression. The kinematic face bow is not wide enough to permit its use on the Kinoscope so the model had to be first mounted on the model H articulator as shown in Figure 14 and then transferred to the Kinoscope as shown in Figure 15.)

a) By means of the centric relation wax the lower working model was mounted to the upper model.

b) By means of the protrusive and right and left lateral wax records the instrument was set so that its movements corresponded to those of the patient.

The entire occlusion was now worked out in wax to coordinate the upper and lower restorations with the movements as recorded by the machine.

c) The incisal guidance was first worked out in wax by cutting the upper diolite teeth to the correct size.

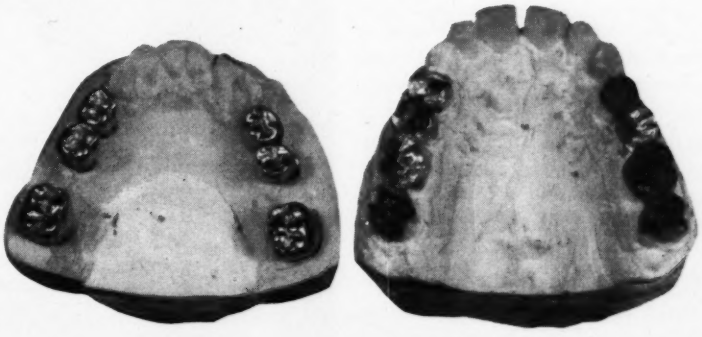
d) The upper wax carvings were tinfoiled and the wax carvings of the lower crowns were completed and cast as shown in Figure 16.

e) The lower cast crowns were placed in position in the mouth and checked for cervical fit and interproximal contacts.

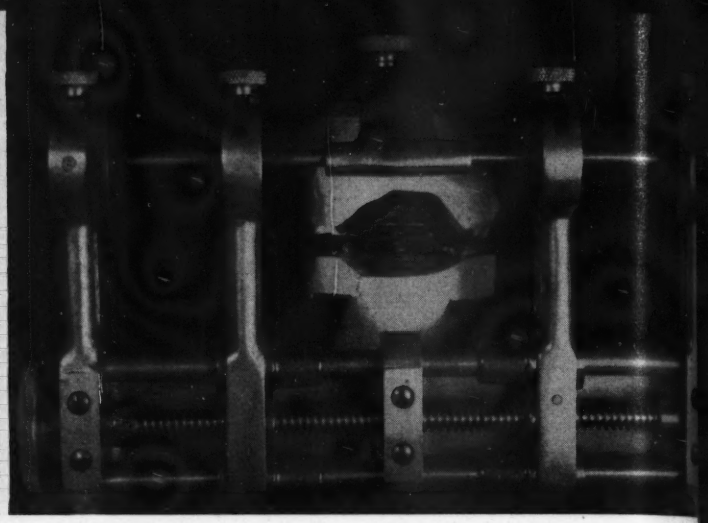
f) A centric relation wax was carefully taken against the upper prepared teeth. A full lower plaster impression was taken.

g) The crowns were removed from the lower teeth, placed in position in the lower plaster impression, and a new lower working model was poured.

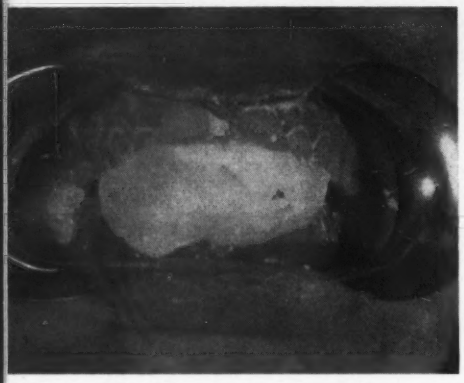
The wax was boiled off the upper diolite model. A face bow which fitted the Kinoscope took a registration of its position on the machine and the diolite model number one, which was made from the hydrocolloid impression, was now substituted for the diolite model number two which now could be discarded.



16. ***Second upper diolite model made from hydrocolloid impression shown in Figure 11. (First diolite model is shown in Figure 12.) Entire occlusion is coordinated in hard wax. Upper wax is started by using an arbitrary occlusal disc (usually a segment of a four-inch sphere). Its concave surface is laid on the occlusal surface of the upper teeth and this curve is used as a starting point for the waxing. Incisal guidance is first established. (In this case, incisors had to be completely cut off and brought in.) Upper wax carvings are tinfoiled and lower teeth carved against them. Articular registrations are used as guides. Wherever necessary the tinfoil is removed from upper impression and wax removed from it and added to lower or vice versa.***



17. *and* **18.** ***Centric relation checked by means of a central bearing Gothic arch instrument mounted upon models as shown here. If previous mounting is correct, the Gothic arch point tracing and wax record will check.***



19. ***With the central bearing instrument in position and stylus at apex of the Gothic arch, plaster is flowed between plates. The instrument can now be removed and set upon articulator.***

7. *Rechecking Centric Relation*—Even though centric relation had been studied carefully and rechecked many times by means of wax check bites, it was decided at this time to make tracing plates and recheck the accuracy of centric relation

a) Tracing plates were made by mounting them upon three castings on the lower to which the stylus was soldered and a hard modeling compound baseplate upper reinforced by metal fingers resting upon the upper teeth to which the platform was mounted. They were mounted upon the Kinoscope at the given bite height (Figs. 17 and 18).

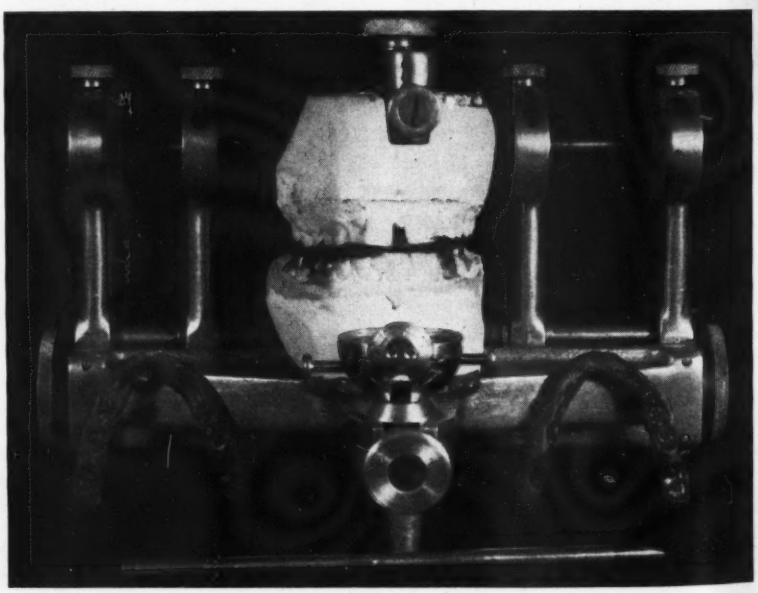
b) A Gothic arch tracing was taken in the mouth with the tracing plates in position. When the stylus was at the apex of the Gothic arch, plaster was flowed in position (Fig. 19). The plaster was removed from the mouth.

c) The tracing plates were removed and remounted on the models on the Kinoscope. Centric relation was checked. The metallic heads touched their anterior stops when the stylus was at the apex of the Gothic arch.

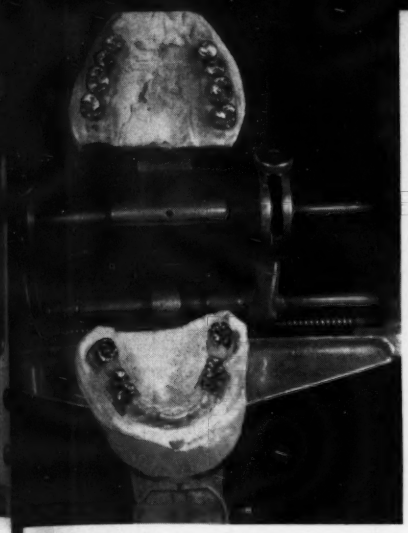
8. The new lower working model was mounted to the upper model on the Kinoscope by means of the new centric relation wax (Fig. 20).

9. *Completion of Lower Bridges*—The upper posterior inlays, eight in number, and the lower fixed bridges were now completed. Three abutments were used on each lower bridge and complete fixation for better strength was employed. The buccal surfaces of the lower bicuspid cast crowns were prepared for acrylic veneers. The cusp heights and occlusal curve harmonized with the movements of the articulator (Figs. 21 and 22).

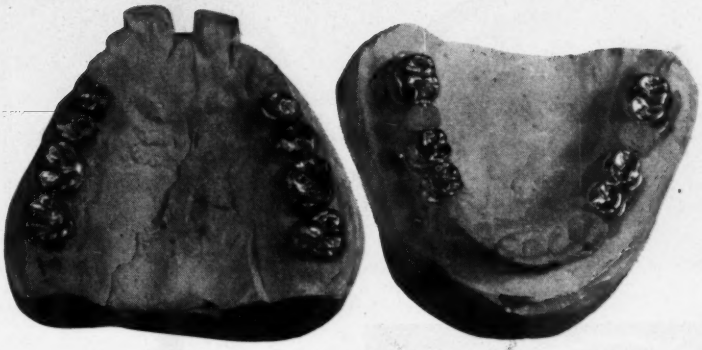
10. The upper castings and the lower bridges were now fitted on their respective teeth. Contacts were check-



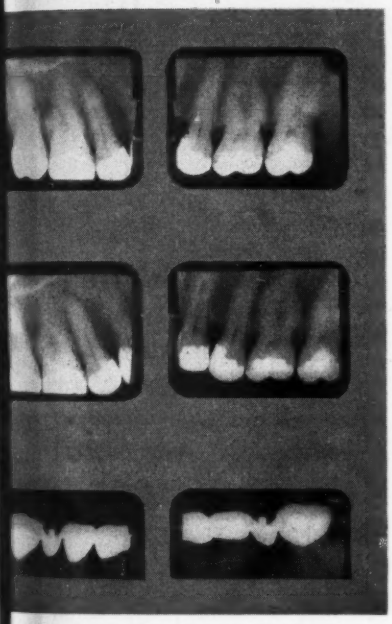
20. ***New lower working model, described in text, on which lower fixed bridges will be completed, mounted by means of centric relation wax to upper diolite model.***



21. *Upper castings and lower bridges completed and ready for try-in in mouth.*



22. *Closeup of occlusal anatomic detail. Acrylic veneers have still to be processed in lower bicuspids.*



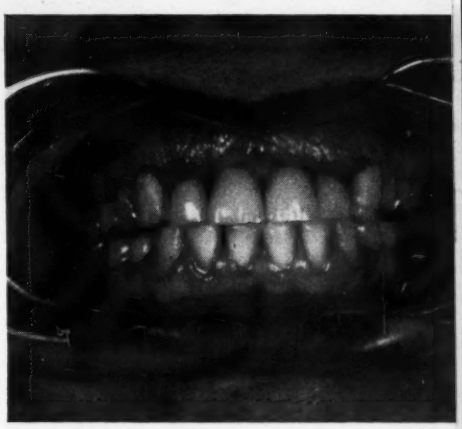
23. *Roentgenograms for checking cervical fit of all posterior castings.*

24. *Posterior restorations completed and cemented in. Immediate upper partial denture is held beside retractor just previous to extraction of four upper anterior incisors.*

ed. Roentgenograms were taken to check cervical fit (Fig. 23). The acrylic buccal veneers for the lower bridges were processed. The lower posterior teeth were cleaned with warm water and alcohol and coated with varnish. The lower fixed bridges were cemented into position.

11. *Cementing Upper Castings*—The upper left castings were then cemented into position with the exception of the one on the left first bicuspid; this was only cemented in with temporary cement. (Before cementing, the prepared teeth were carefully washed with warm water and then alcohol and coated with cavity lining.)

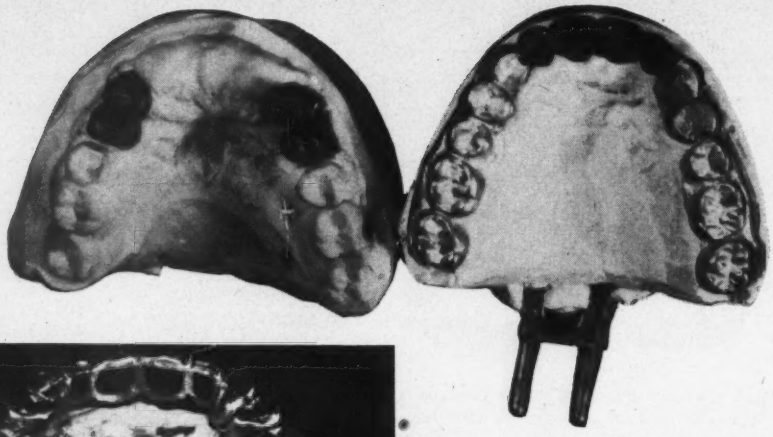
The upper right castings were only cemented in temporarily because the patient had an indefinite pain in the right upper teeth; the first bicuspid, with a history of previous trouble, was suspected. (This tooth soon developed a severe pulpitis; the pulp was subsequently removed and the root canal filled.) Then the upper right castings, with the exception of the first bicuspid casting, were all cemented into position after the teeth had been cleaned in the manner previously described.

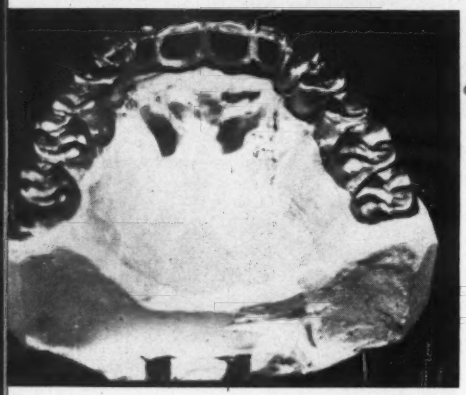


26. *A week later the healing process is taking place.*

(It was not planned, at the start of the procedure, to complete the upper restorations with a fixed or removable bridge. As reconstruction advanced,

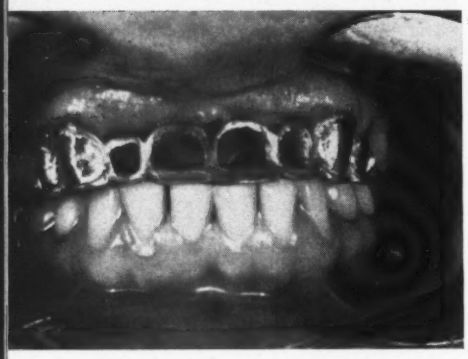
25. *Upper centrals and laterals have been removed under local anesthesia and gingival tissue above right central and two bicuspids resected to expose more tooth structure. Inmediate partial denture is in position over blood clot. Wonderpac covers resected gingival tissue.*





27. ***Anterior fixed bridge will consist of eight units, four abutment teeth (two first bicuspids and two cuspids) supporting central and lateral incisor pontics. Cast crowns made on left model; anterior pontics being waxed up on right model.***

28. ***Entire frame. Hard gold is used to support acrylic on incising surface. Frame is open to allow passage of light through material and permit an acrylic saddle.***



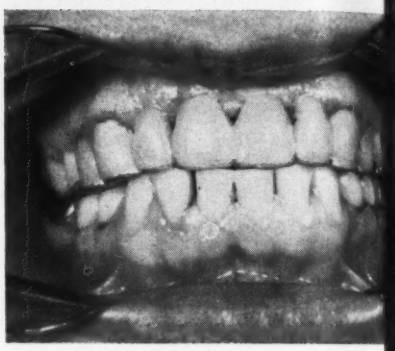
29. ***Frame tried in mouth and occlusion checked.***

32. ***Abutments cleaned with warm water and alcohol and coated with varnish just prior to inserting anterior fixed bridge.***

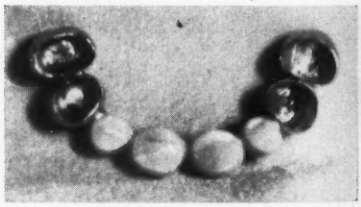
however, the decision was made to use a fixed anterior bridge. Multiple abutments were advisable. The first bicuspids were therefore prepared for full crowns and the inlays which had previously been made for them were used only as temporary restorations and finally discarded.)

12. *Upper Anterior Partial Denture*—Full upper and lower alginate impressions were taken and stone models made. The upper incisors were removed from the stone model and an immediate upper partial restoration was made (Fig. 24). Under local anesthesia the upper incisors were removed and the protruding anterior bony plate slightly flattened. The gingiva above the right cuspid and right first and second bicuspids was dissected back. Wonderpac was applied to the dissected gingiva and the partial denture immediately introduced (Fig. 25).

13. *Upper Cuspids and Bicuspids*—While the tissues were healing (Fig. 26), the upper right and left cuspids and first bicuspids were prepared for full crowns. The preparations were all made parallel to each other so that the fixed bridge could be inserted in one piece. (All the units [eight in number] were to be soldered together for greater strength.) Modeling compound copper band impressions were taken of the four preparations and copper-plated dies made. Gold cast crowns were made upon a full upper

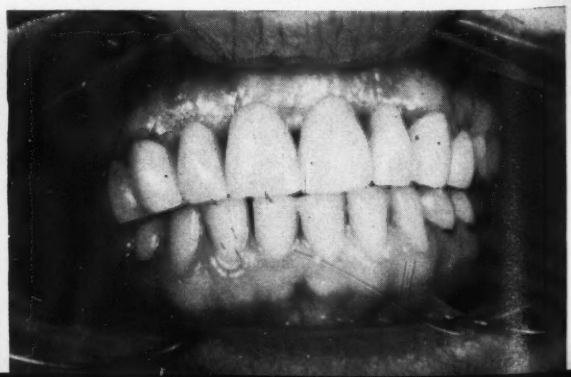


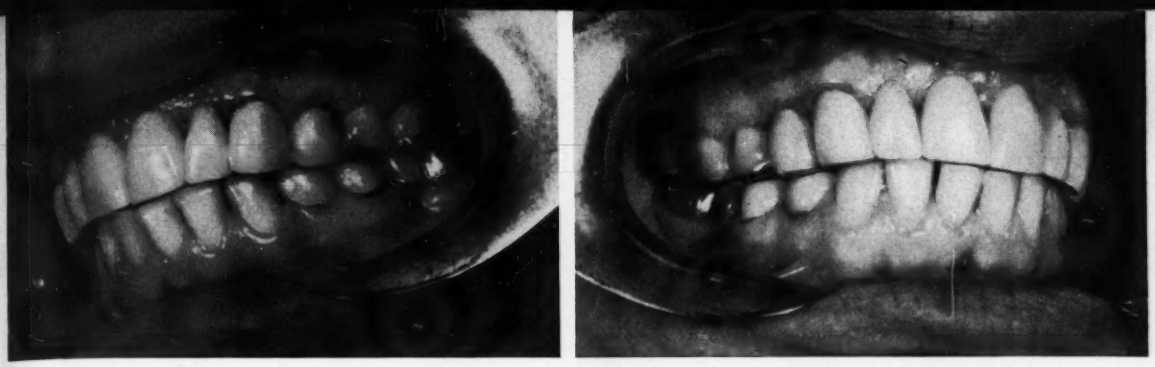
30. ***Carved wax teeth being tried on frame to observe size, shape, and contour of completed case before finishing bridge. Changes can still be made.***



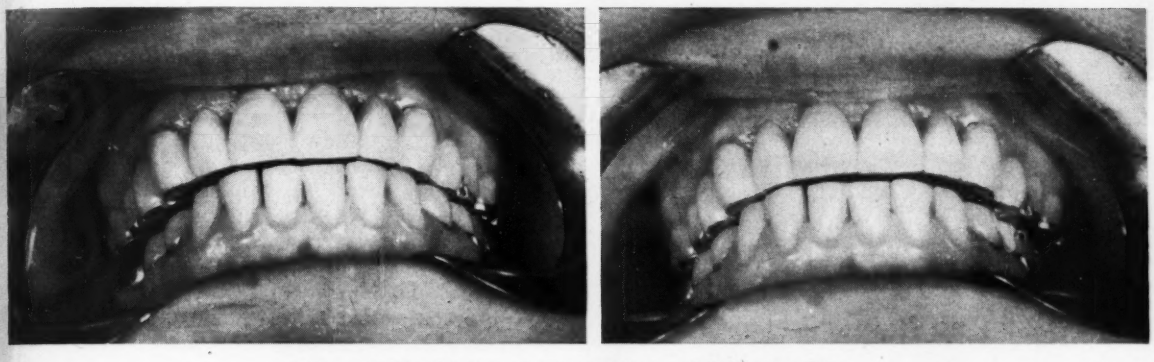
31. ***Completed upper anterior fixed bridge. The acrylic material is supported by a strong metallic frame. The four pontics and four abutment teeth are all soldered together to obtain complete fixation in order to support the occlusal forces better.***

33. ***Completed case.***





34. *and* **35.** ***Right and left views of completed case.***



36. *and* **37.** ***Right and left working and balancing bites.***

plaster model and tried in the mouth for shape and fit. The labial and buccal surfaces were prepared for acrylic veneers.

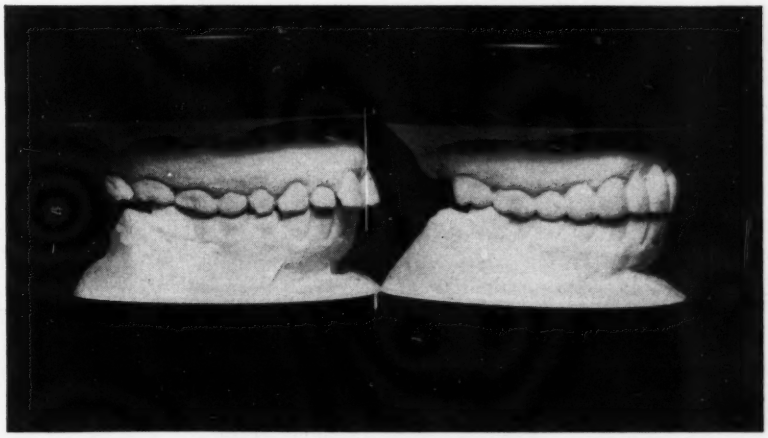
It was now nearly six weeks after the extractions. A full upper plaster impression was taken with the castings in position. A centric relation wax bite and a full lower alginate impression were taken. With the cast crowns in position in the impression, upper and lower models were made and articulated.

14. *Completion of Upper Bridge*—The entire anterior fixed bridge was worked out in wax and plaster indexes were made (Fig. 27). The wax carvings were tried in the mouth for shape, size, and other features. The wax was then cut out to form a framework. The plaster indexes were set aside; they would be used later in reshaping the bridge, after the frame had been cast. The casting was made of hard gold. The incising stroke would thus be performed on hard gold, not on the acrylic material.

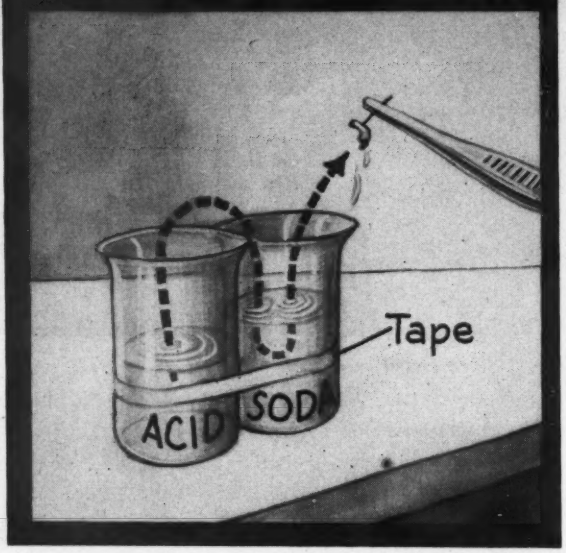
The entire bridge was soldered together to form one unit (Fig. 28). It was then tried in the mouth (Fig. 29). By means of the previously made plaster indexes the wax surfaces were restored in light wax. These surfaces

(*Continued on page* 298)

38. ***Profile view of completed case. Compare with Figure 2 to note how much upper lip was brought in.***



39. ***Left: original models; right: models of completed case.***



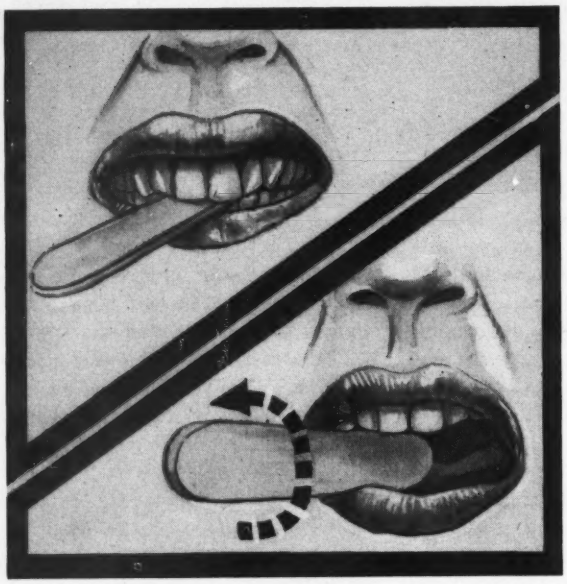
1

Clinical and Laborator

Pickling Technique for Gold Inlays

Harry Dickey, Atlanta

1. Heat the inlay to a cherry red color; plunge in acid. Remove the casting from the acid and drop it into a concentrated soda solution. The soda neutralizes the acid and gives a bright surface to the casting.



2

A Simple Method of Separating the Jaws

Harry L. Aronson, D.D.S., Chicago

2. A patient may present himself who is unable to open his mouth to any extent or cannot keep it open for any length of time. In such cases insert a tongue depressor horizontally between the teeth opposite the side you are to treat. Rotate the tongue depressor until the patient is biting on the edge of the wooden blade. This will enable the patient to keep his mouth open for a necessary examination or treatment.

3

Cleaning Inlay Patterns

Hadley H. Hicks, D.D.S., Bisbee, Arizona

3. Select an empty cement powder bottle and fill half-way with a wax-cleaning solution—liquid green soap, alcohol, peroxide. Put the inlay pattern, which is securely attached to the sprue former, in the bottle and shake vigorously. After use, the top may be replaced on the bottle and the contents used again.

READERS *are Urged to Collect* $10.00

For every practical clinical or laboratory suggestion that is usable, DENTAL DIGEST will pay $10.00 on publication.

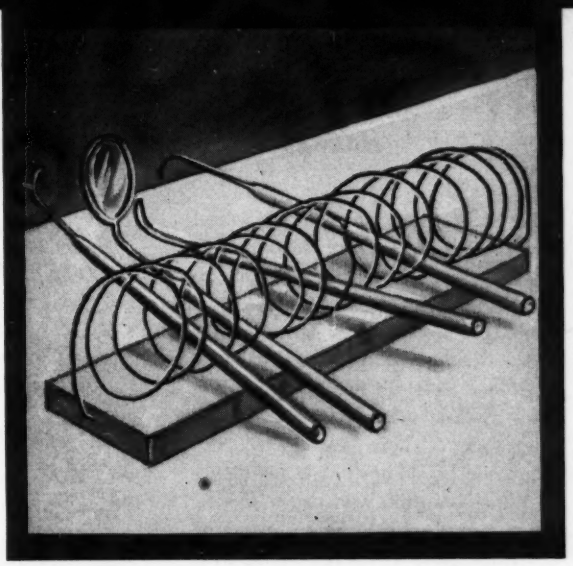
You do not have to write an article. Furnish us with rough drawings or sketches, from which we will make

GGESTIONS . . .

A Laboratory Instrument Holder

E. Graykowski, D.D.S., Oberlin, Ohio

4. A desk pen and pencil holder is used on the laboratory bench to hold instruments that are not in use. As many as twenty instruments may be held in full view at all times.



4

Weighing Cristobalite and Control Powder

Samuel L. Gilberg, D.D.S., University City, Missouri

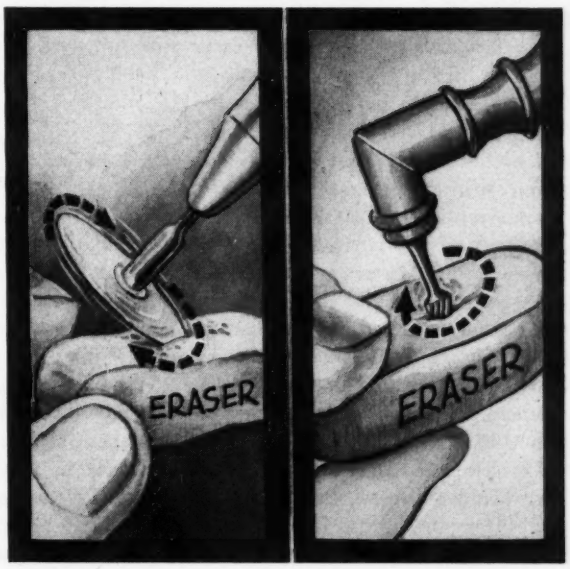
5. Remove the dispensing proportioners from two sugar dispensers. Fill one dispenser with cristobalite and the other with control powder. When weighing investment materials, pour the powders directly from the spout into the weighing cups.

5

Cleaning Diamond Stones and Points

F. J. Loughlin, D.D.S., Jamaica, New York

6. Select a medium hard rubber eraser. Revolve the diamond stone or point against the eraser to clean the instrument.



6

suitable illustrations; write a brief description of the technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time.

Turn to page 305 for a convenient form to use.

Send your ideas to: Clinical and Laboratory Suggestions Editor, DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

Constitution (Biology)

In the light of scientific study and observation the concept of aging has undergone a fundamental change. Advances in science and medicine have prolonged the span of life and provided a better and more vital old age.

At one time old age was regarded as a disease but this is not entirely true today. There are no specific symptoms of old age nor is any single factor responsible. Old age is looked on as a gradual exhaustion of one or several centers of energy along with an extreme modification in the chemistry of the body.

The change in the body organism begins when the embryo is formed in the womb. The environment in which the embryo develops has an impressive influence upon the future constitution of the child. Unhealthy prenatal conditions can do a great deal to weaken a good constitution.

Conditions existing in infancy and childhood may have a strong influence upon the status of later life. Injuries received in early life predispose to certain diseases. Many infections occur in infancy which leave an imprint on the developing child. Glands, both those of external and internal secretions, are particularly susceptible to injuries from infection and poor diet. And since the glands play such a prominent role in growth and development, it is readily understood how deleterious changes may occur later in life.

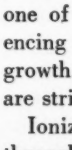
One noteworthy conclusion has been arrived at through careful observation: Strong and healthy children are most frequently stricken with poliomyelitis. However, these same children show evidence of a lack of coordination between growth and development. In reality they are overgrown but retarded in development.

Certain characteristics arising in infancy and early youth seem to predispose to one disease or another. A woman with a peptic ulcer is usually of masculine build while a man with gall bladder disease often shows peculiar feminine traits. These are significant observations because peptic ulcer is rare among women and gall bladder disease is five times more frequent among women than among men.

With older patients under treatment for dental rehabilitation it is wise to consider the early history in all cases. And likewise it is the duty of the dentist to render service to the younger patients with a consideration of the years ahead.

Sokoloff, Boris: The Civilized Diseases, New York, Howell-Soskin, 1944, pages 5-18.

MEDICINE *and the Biologic Sciences*



Radiation-Malignant Tumors

Radiation has been established as one of the important ways of influencing both normal and abnormal growth. The effects of radiant energy are strikingly apparent.

Ionizing radiations act on tissue through direct production of intrinsic changes in exposed cells and through changes in the environment of the cells. Direct effects may kill or injure the cells or induce somatic changes in the surviving cells. In tumor cells which survive therapeutic radiation or in normal cells incidentally exposed changes in morphology and growth rate are not infrequent. These changes may be carried on to their descendants. Cells which survive radiation will often show greatly increased resistance to radiant energy.

All types of ionizing radiation—the roentgen ray, the gamma ray, the alpha particle, the beta particle and, the neutron—have essentially the same qualitative effects on cells exposed to them. It is not possible to determine what type of radiation has produced a given change in cells with present means of study. The tissue or cell is affected by the radiant energy absorbed—not that which is delivered to it.

The first noticeable effect on cells is interference with mitosis, both a diminution in mitotic activity and the appearance of chromosomal abnormalities. This is followed by vacuolization and swelling of the cytoplasm. Later pyknosis and autolysis of the injured cells take place.

After the usual dose of radiation some of the tumor cells show a partial or complete recovery. There would be no lasting effect on the irradiated part were it not for the effects produced on the connective tissue stroma and blood vessels. Isolated cells are extremely resistant. Vascular endothelium is readily damaged with a resulting impairment of circulation in the tumor or tumor bed. Collagen within the field becomes more abundant. Finally it fuses and forms fairly dense hyaline. This then acts as a barrier to the metabolic activity of the tumor cells and hinders their spread into adjacent structures.

Tumors are divided roughly into three classes, according to their response to irradiation. Those that regress with a dose of irradiation that does but little harm to adjacent tissues are termed *radiosensitive*. This group includes lymphoma, angioendothelioma of bone, and multiple myeloma.

Tumors that regress when a dose is applied that is harmful only to a moderate degree to adjacent normal tissue are termed *radioresponsive*. This group includes basal cell cancers of

the skin, some cancers of the thyroid, and some of the cervix uteri.

Those tumors which do not regress unless a heavy dose is given are termed *radioresistant*. With such doses normal adjacent tissue is seriously damaged. In this group are malignant melanoma, carcinoma of the rectum, and carcinoma of the breast.

Radiosensitive tumors are not necessarily radiocurable. They often recur in a very resistant form after their initial regression.

Science has attempted to find a means of selective irradiation of tumors. To date there is no such means. Atomic research has shown that radio-phosphorus is selectively absorbed by rapid growing cells. Radioactive iodine is selectively absorbed by thyroid cells; however, clinically it is of limited use. With the widespread atomic research today it is certain that significant findings will be made in the field of radiation.

Warren, Shields: *Mechanism of Radiation Effects Against Malignant Tumors, J.A.M.A.* 133:462-463 (*February* 15) 1947.

Blood Groups (Physiology)

Blood is classified into four main types because of the ability of plasma of certain individuals to cause agglutination of the erythrocytes of others. These types are: A, B, AB, and O.

The blood is composed of 55 per cent plasma and 45 per cent cells. These cellular elements are erythrocytes, leucocytes, and platelets.

The red cells or erythrocytes of a person in Group A contain A agglutinogens which are affected by similar alpha agglutinins found in the plasma from other individuals. As a result of this union an agglutination of red cells occurs in the person receiving blood. Therefore, the plasma of a person in group A does not contain the alpha agglutinins.

No agglutinogens are found in the cells of some persons; this group is termed group O. Others contain beta agglutinogens; this group is termed group B. And finally there is a group of persons containing both A and B agglutinogens; these comprise the group AB. Just as there are only two agglutinogens so there are only two agglutinins—alpha and beta.

In group A the alpha agglutinins could not exist; therefore A can and does contain beta agglutinins. Similarly it is noted that group AB has neither agglutinins. When only small amounts of incompatible plasma are injected into persons, there is little danger because the blood volume of the donee dilutes the small amount of the plasma from the donor; so there is little if any effect. Pooled plasma is preferable in order to obtain prior dilution of incompatible plasmas with compatible ones.

Those persons with O cells are spoken of as being universal donors. Inasmuch as they contain no agglutinogens, they cannot be agglutinated. Such a procedure is not practical except in emergency. The same principle applies with the ability of group O cells to receive any blood since its plasma contains no agglutinins.

When agglutination does occur the body is affected by toxic products liberated by hemolysis. If severe, the agglutinated corpuscles will act as emboli in the blood stream with disastrous results in most cases.

Main, Rolland J.: *Synopsis of Physiology, St. Louis, C. V. Mosby Company*, 1946, *pages* 133-134.

Acetylsalicylic Acid

One of the important causes of bleeding during oral surgery is the use of acetylsalicylic acid. Of all home remedies this drug is probably the most frequently used.

Aspirin is an analgesic and is especially useful for the relief of pain from the teeth. Toxic effects have been reported and even some deaths, following the administration of aspirin.

Severe reactions are rare but there is evidence that the blood prothrombin is decreased by the use of acetylsalicylic acid and of salicylates. Studies have shown that the use of these drugs may cause hypoprothrombinemia. This can be prevented by simultaneous administration of vitamin K. However, once excessive bleeding has occurred after the use of salicylic acid or salicylate, vitamin K is of little use.

It is wise to incorporate vitamin K when acetylsalicylic acid is prescribed. To prevent unnecessary bleeding 1 milligram of vitamin K should be taken with every 5-grain tablet of aspirin.

Cahn, Lester: *Acetylsalicylic Acid*: *Bleeding, Journal of Oral Surgery* 3:336-338 (*October*) 1945.

Trigeminal Neuralgia

One of the most painful and distressing afflictions of mankind is trigeminal neuralgia. The painful paroxysms are usually initiated by talking, eating, and touching the face. And as a result those afflicted often become recluses in order to avoid speech. They may even avoid eating and washing in an effort to prevent the extreme pain experienced during the paroxysms. Relief is imperative with these patients if life is to be worthwhile at all. Many of them prefer death to enduring the painful spasms.

The affliction is easily recognized. The patient experiences a sudden brief paroxysm of sharp, twisting, burning pain in one side of the face. The disease is most commonly noted in middle age or beyond. The aged are often affected.

Often the disease subsides temporarily. Some medicinal agents relieve it for short periods and alcoholic injections into the nerve bring relief for somewhat longer periods.

The only complete and permanent relief is gained by section of the nerve proximal to the gasserian ganglion. The operation can be performed by a competent neurosurgeon upon almost any patient with comparatively little risk. Many of these operations are completed in thirty to sixty minutes under intravenous sodium pentothal anesthesia. Usually the patients are up

on the second or third day after surgery. And most leave the hospital on the fourth, fifth, or sixth day.

Age is no contraindication for retrogasserian neurotomy. The mortality rate is not over 0.5 per cent. This is noteworthy as the average age for the onset of the disease is 51 years and usually the time of the operation is several years later. And, too, many of the patients in this age group suffer from degenerative diseases like myocardial degeneration, arteriosclerosis, arterial hypertension, chronic nephritis, and diabetes.

The operation does not result in paralysis of the face. It has been estimated that paralysis occurs in only 2 per cent of the cases; however, this almost always completely subsides in a few weeks. There is a loss of feeling in the denervated part of the face but usually no change in the mobility or in the appearance of the face.

The eye is not endangered in the majority of cases as the pain involves only the maxillary and mandibular divisions of the nerve. Therefore, only the lower three-fourths of the nerve need be divided. In those cases involving the ophthalmic division the entire nerve must be sacrificed. This procedure leaves the eye devoid of feeling. Precautions must therefore be exercised to protect the eye against foreign bodies and weather extremes.

Bucy, Paul C.: Trigeminal Neuralgia, Its Relief in the Aged and Feeble, The Surgical Clinics of North America, 27:129-137 (*February*) 1947.

Penicillin

From the mold Penicillium notatum four different fractions have been obtained. These have been termed penicillin F, penicillin G, penicillin K, and penicillin X.

The G and X fractions have received the greatest attention. An interesting study was carried on in Washington by a group to determine the comparative efficiency of crystalline penicillin G, commercial penicillin, and penicillin X. Commercial penicillin has been interchangeably called plain, regular, or ordinary penicillin G. Its true form is a preparation containing 90 per cent penicillin G.

A number of tests showed that blood concentrations following the administration of penicillin X were consistently higher and the duration of bactericidal activity was longer in comparison with those of commercial penicillin and crystalline penicillin G. No significant differences were noted between the height or duration of blood concentration following administration of commercial penicillin and crystalline penicillin G.

When 100,000 units of penicillin G and penicillin X were administered intravenously in comparative tests, it was found that G remained in the urine for as long as 18 hours, whereas X was present for at least 24 hours. 75 per cent of G was recovered in the urine and 55 per cent of X was recovered in the urine.

A tabulation of results revealed that about 50 per cent of the strains of bacteria were more sensitive to penicillin X and the remaining 50 per cent were either equally sensitive to both fractions or more sensitive to the G fraction. However, with the exception of a few strains the difference in the sensitivity of bacteria to either fraction was not great.

It was noted that generally penicillin X and penicillin G were nearly equal in all infections. The two exceptions were: (1) penicillin X was given at less frequent intervals than the equivalent of penicillin G without loss of therapeutic effect; (2) an occasional infection was found in which the causative agent was resistant to the G factor but sensitive to the X fraction. In such cases the greater sensitivity to penicillin X and the higher concentration possible warranted the use of the X fraction.

Only a few cases of toxic results from the use of penicillin have been reported. There were no apparent differences in the reactions of the preparations used.

In practically all infections caused by the penicillin-sensitive organisms there was no obvious clinical difference between the efficiency of penicillin X and penicillin G fractions.

Ratman-Kava, Georgine; Hirsh, Harold L.; Dowling, Harry: A Comparative Study of Penicillin X and G and Crystalline G, New England Journal of Medicine 236:314-318 (*February* 27) 1947.

An Anatomic Technique of Occlusal Reconstruction

(*Continued from page* 293)

were applied to the gold frame and tried in the mouth to obtain a better impression of how the finished bridge would look (Fig. 30).

The bridge was processed in acrylic and completed (Fig. 31). The teeth were washed with warm water, wiped with alcohol, and coated with cavity lining (Fig. 32). The bridge was cemented in with temporary cement (Wonderpac). (This can be kept in several months until the ridge has healed. Acrylic may have to be added to the ridge area if more resorption takes place; otherwise the bridge can be permanently cemented in.)

Photographs, roentgenograms, and models were made and thus the case was completed (Figs. 33 and 39).

730 *Fifth Avenue.*

The EDITOR'S *Page*

IT HAS been a long time coming but finally a dentist[1] reports the combination of a local anesthetic with an analgesic-sedative to control both dental pain and the apprehension of the dental experience. We have developed our local anesthetics to a high point of safety, convenience, and efficiency; we have perfected our techniques and the instruments to induce local anesthesia. There have remained, however, apprehension and anxiety among our patients. We have either ignored these psychologic perturbations or have used premedication to control their manifestations. Too often we have been grossly unconcerned about and indifferent to the psychologic stresses and strains which precede and are a part of the dental experience.

The ideal analgesic, either general or local, should raise the pain threshold to a level of complete freedom from pain and at the same time produce relaxation and freedom from anxiety symptoms. Anesthetic agents have fulfilled the requirement of raising the pain threshold without inducing relaxation. Copen found in his studies that the addition of demerol hydrochloride to a local anesthetic produced an immediate relaxation and a mild euphoria among his patients that lasted for about an hour.

Demerol hydrochloride, according to the Council on Pharmacy and Chemistry of the American Medical Association[2] produces "a slight sedative and a decided analgesic action. Unlike morphine, demerol hydrochloride is not a potent hypnotic. In man the analgesic effect of demerol hydrochloride appears to lie between that of morphine and codeine and persists for from five to six hours. Although it has not been possible to demonstrate the development of physiologic dependence to demerol in animals, the drug does possess a moderate degree of addiction liability. The development of tolerance to the drug has been demonstrated in man, and it has been shown that demerol may be substituted for morphine in addicted individuals with prevention of the morphine withdrawal syndrome. Furthermore, mild withdrawal symptoms have been observed in susceptible individuals purposely addicted to the drug.

"The possibility of development of psychic dependence to demerol must also be kept in mind, since the drug will produce a euphoria in some individuals which lasts for an hour or more, depending on the dose."

It must be emphasized that combining demerol with a local anesthetic agent possesses some danger of drug addiction. It is not inconceivable that dentists who use this drug and see the pleasant relaxation that develops in patients may become addicted to the drug themselves. It should also be stated that if dentists use demerol in combination with a local anesthetic agent, they must apply for a federal narcotic license.

The technique described by Copen for using the combination of a local anesthetic and demerol is as follows: A solution of monocaine hydrochloride 1.5 per cent with epinephrine 1:100,000 is used. The tube of monocaine contains 2.25 cubic centimeters of the anesthetic solution of which 0.5 cubic centimeter is expelled. The needle of the syringe is then inserted through the sterile cap of the bottle containing the demerol hydrochloride and this drug is drawn into the syringe to occupy the space left by the expulsion of 0.5 cubic centimeter of monocaine.

Copen says: "The injection of the needle should be done under thorough aseptic conditions, and after you have inserted the needle into the tissues, *inject very slowly*, the total time of injection being not less than one-half minute. You will notice a change for the better in the patient's attitude almost immediately. The patient quickly becomes relaxed, cooperative, and free of fear of the impending dental procedure. This desirable state obtains within ten minutes and continues for one-half to one hour. It has been my experience that the effect is terminated at the end of one hour."

The originator of this co-medication technique is to be highly commended. The combination of an anesthetic agent with an analgesic-sedative is highly desirable. It would be more desirable, however, if the analgesic-sedative was not a narcotic drug.

[1]Copen, S. I.: Premedication by Co-medication in Local Anesthesia, American Journal of Orthodontics and Oral Surgery **33**:290-300 (April) 1947.
[2]Council on Pharmacy and Chemistry of the American Medical Association: New and Nonofficial Remedies, Journal of the American Medical Association **132**:146-147 (September 21) 1946.

In Two Speeds To Suit Your Needs!

Hygienic Acrylic comes in two types — Regular and Type MS (Medium Set). The regular is ready to pack in 5 to 10 minutes; Type MS in 12 to 18 minutes, depending on temperature. The longer working period of Type MS permits packing several cases from one batch. Quality and texture are the same in both.

Hygienic Acrylic comes in 2 speeds.

Each is available in light, medium, deep pink and clear at $7.50 (1 lb. powder, ½ lb. liquid). Less in larger quantities. Order a trial package to be billed through your dealer.

The Hygienic Dental Rubber Co.
Akron 8, Ohio, U. S. A.

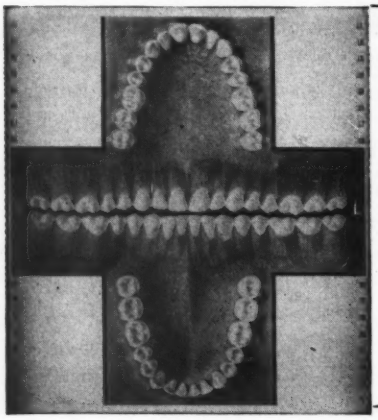
— ***Highly Regarded for Post-Extraction Treatment***

Mu-col

THE MU-COL CO.
Dept. DD-67
Buffalo 3, N. Y.

There's nothing finer than MU-COL, with its special soothing and cooling qualities, to relieve the patient's discomfort. As an aid to normal granulation, clinical experience is most favorable. MU-COL is a superior saline-alkaline bacteriostatic and rapid mucus solvent. Non-deteriorating, in powder form, it is quickly soluble. Samples sent on request.

BUY SAVINGS BONDS EVERY MONTH



Permanent Records Are Important . . .

Do you have a permanent record of the mouth of each of your patients? This type of record is tremendously important, and easy to accomplish. Use the Ryan Treatment and Examination Chart as illustrated here. It is being widely used and is acclaimed the most practical chart for record purposes. Use it on *one case* . . . and you will want to use it on *every case*. The coupon is for your convenience.

Dental Digest
1005 Liberty Ave., Pittsburgh 22, Pa.
Here is $1.00 for a pad of 50 Ryan Examination and Treatment Record Charts.

Dr. .....
Address .....
City .....

Contra-Angles

The Little Black Book . . .

Now that there are signs that the buyer is ready to come into his own and that we are about through with the insults from ticket agents and fishy-eyed hotel clerks, many of us are referring to our little black book in which we recorded the irritations of the war years.

I am not one for engaging in vendettas or for going out of my way to heap vengeance upon someone's head, but I am not forgetting a lot of people who were snarling and insulting during the war years. I remember particularly the long waits in line at hotel reservation desks and the spit-in-the-eye sort of greeting that many clerks used. Sure, times were hard and help was scarce but there was hardly any reason for being so insolent. All the future dream copy, all the bloated up advertising that these hotels will engage in to describe their little "paradises" will mean nothing. All I have to do is turn to my little black book and note that on such and such a day such and such a clerk at a certain hotel went out of his way to be nasty. Forever in the future *that* hotel has a black mark.

I also have it in for the railroads. Mechanically they did a pretty good job during the war; in fact, an excellent job. But from the standpoint of personal relationships they were insolence personified. Regardless of how their copywriters work and all the pretty words that they hang together to describe their super-services, they cannot convince me that they are much more than "rolling tenements" subject to wrecks, bad ventilation, rough tracks, and ugly personnel.

I also have a bone to pick with restaurant owners who are quick to chop

(*Continued on page* 305)

(*Continued from page* 300)

items from their menus under the cover of emergency but who are damned slow to restore the items or the service when recovery sets in. I am referring to butter which is now plentiful and reasonably priced but which is still doled out by restaurant owners in thin and microscopic slices.

While I am talking about the little black book, I am not unmindful that many of our patients likewise have such dossiers. I suppose many of us were pretty arrogant ourselves during the war years when we had more business than we could handle and patients were pleading with us for dental appointments. I suppose we were rather high hat with a lot of people and told them that if they were real nice we could get them appointments three or four months ahead.

I have a feeling that a lot of dentists are going to suffer in the next few years, particularly the ones who couldn't stand the prosperity of the war boom. People are basically decent and forgiving but they do hang onto resentments a long time if these resentments are based on arrogance, indifference, and haughtiness.

Cancer: Another Theory . .

I have just read a publication[1] by a research chemist, Mr. Richard G. Berger, which enlarges on an old theory with respect to cancer. It has been known for some time that coal tar products are carcinogenic. Mr. Berger expands this theory to point out that modern heating and modern cooking subject us to all sorts of irritations from incomplete combustion products. But let Mr. Berger tell it his way:

"Whenever food is prepared by heat using the common fuels of civilization—coal, manufactured coal gas, water gas, fuel oil or wood—the burning is never absolutely complete, and not all the sooty, tarry and other combustion products travel up the chimney. A portion of the products of incomplete burning—especially

[1]Berger, Richard G.: Cancer: Probable Causes and Prevention, 1947. (1928 North Avenue, Bridgeport 4, Connecticut).

CLINICAL AND LABORATORY SUGGESTIONS

(*See pages* 294 *and* 295)

Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor
DENTAL DIGEST
708 Church Street
Evanston, Illinois

From: _____

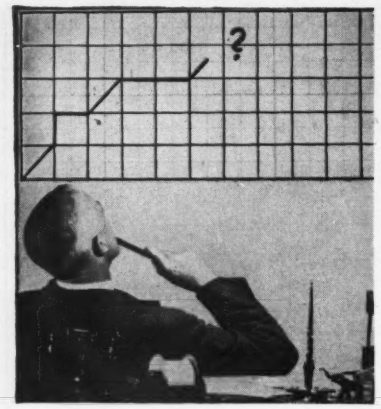
_____

Subject: _____

Explanation of Procedure:

Sketch:

$10 will be paid to author on publication of accepted suggestions.



Your Practice Volume Curve Where to?

During the past several years, with more dentistry to be done than there were operating hours available, practice volume was far from a problem. And with so many products temporarily eliminated from the public market, people had the money available to invest in adequate dental care. Now, with the supply of consumer goods steadily increasing, people are being urged to invest in many things other than dental care.

Dentistry must again compete with these many appeals for consumer spending. McKesson nitrous oxide pain control is an effective means of meeting this competition by making dentistry more inviting to your patients and by building patient confidence and good-will. Let us tell you what McKesson equipment is doing for other dentists—can do for you.

NARGRAF THE McKESSON APPLIANCE CO. N₂O McKESSON O₂ TOLEDO O. U.S.A. EUTHESOR

EASOR

during the cooking processes of broiling, roasting, baking and preparation methods where no vessel intervenes between the flames and the food—is deposited upon our foods and upon our bodies and is added to the air we breathe. Products of incomplete burning are eaten, are breathed into the human system, and are deposited on our skin. Even the 'dirt' which blew into your eye probably was soot saturated with coal tar. Smoke contains products of incomplete combustion and is the most common visible evidence we have of partial burning.

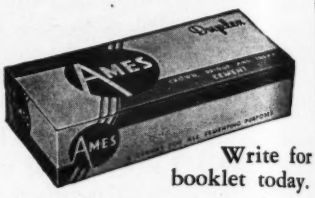
"Besides the food prepared at home, part of our fare may consist of smoked meat, smoked fish, and smoked whiskey, such as 'Scotch'—all of which depend on the products of incomplete burning for their characteristic 'smokey' flavor.

"Contamination of the atmosphere with soot is by far the most prominent source of tar particles in the air. The quantity of tar contained in the dust from tarred roads and from the exhaust fumes of gasoline engines has been found by investigators to be negligible in comparison to the quantity of tar included in the soot released into the air with smoke. Also, the death rates from lung cancer in large cities are consistently and noticeably higher than those of rural communities . . . .

"Leonard Engel, in his article, 'Cigarettes Cause Cancer?' *Reader's Scope*, August, 1946, tells of the work of Professor A. H. Roffo of the University Institute of Experimental Medicine and the Study and Treatment of Cancer at Buenos Aires, who, working with assistants, had found that benzpyrene which is abundantly present in the tars produced by burning tobacco, is a very active carcinogen having its cancer-causing effects especially on the stomach, lungs, mouth and throat. It was estimated that in ten years the average cigarette smoker may take into his or her body more than eight quarts of carcinogenic tar. Nearly all victims of lung cancer were found to be heavy smokers or inhalers.

"There is reason to believe that not only persons who smoke but also

When You Want A Cement To Hold – Use Ames . . .



Write for booklet today.

● The greater power of retention in Ames Crown, Bridge and Inlay Cement is convincing new users everywhere of the wisdom of this statement.

The W. V-B. Ames Co., Fremont, Ohio

AMES
Dental Cements

or Peace by Union?

The Union Idea is as old and time-tested as the Constitution, as new and world-ranging as the rocket bomb.

Secure permanent peace, employment and freedom by using tried U. S. constitutional principles to form another nuclear union uniting the people of the democratic nations.

This union would grow . . . gradually . . . around the world. The spade work for this peace-making union has been done. Federal Union, Inc. has been hard at it since 1939 . . . long before the bomb.

Peace costs money. Send your contribution—it's tax free—today to

FEDERAL UNION, INC.
700 Ninth St., N.W. Washington 1, D. C.

Ask for *Federal Union Makes Sense* free.

REVITALIZE YOUR WORKING LIBRARY

With These Recent MOSBY Releases!

It's time NOW to check your library to see if it contains all the essential tools you need. All four books presented below are invaluable in meeting the problems that continuously occur in treating your dental patients. Order any one or all by filling in the coupon provided below.

New 3rd Edition

WINTER—OPERATIVE ORAL SURGERY

By LEO WINTER, F.A.C.S., Sc.D. (HON.)LL.D. New York City. 1167 pages, 1240 illustrations, including 16 in color. Price, $15.00.

This new Third (1947) Edition is a work guide on Oral Surgery that is designed to assist the practitioner in caring for all types of conditions within the oral cavity. It has been enlarged and rearranged with additional descriptive and clinical material so presented as to make it readily adaptable to the doctor of dental surgery, the doctor of medicine, and the student.

It contains new material on Fractures, Prognathism and Chemotherapy; a separate chapter on Cancer; a condensed chapter on Diagnosis covering the recognition and treatment of the more common non-surgical lesions; a chapter on oral manifestations in the presence of Vitamin deficiencies; Maxillary Sinus in its relationship to the oral cavity; and the subject of diseases of the Temporomandibular Joint has been enlarged.

* * *

New 5th Edition

HOGEBOOM—PRACTICAL PEDODONTIA

Or Juvenile Operative Dentistry and Public Health Dentistry. 503 pages, 467 illustrations. Price, $8.50

By FLOYDE E. HOGEBOOM, D.D.S., F.A.C.D. University of Southern California.

The entire book has been completely revised and type matter reset so that the present fifth edition contains over 100 additional pages of text and 192 new illustrations.

New chapters have been added on the following topics:

Economics (The Business Side of Dentistry.) Examination and Diagnosis. The Adolescent with Interproximal Caries. Space Maintenance, Diagnosis and Treatment. Chrome Alloy Appliances. The Application of Plastics to Childhood Dental Service. Preventive Orthodontics.

New 3rd Edition

MEAD—ORAL SURGERY

By STERLING V. MEAD, D. D. S., M. S., B. S., Washington, D. C. 1447 pages, 805 text illustrations and 16 color plates. Price, $15.00.

An outstanding book which explains in a simple way the everyday surgical problems which are likely to confront the dental practitioner. The material is based on clinical experience and only tested methods and procedures are presented.

The third edition has been increased almost 10% in text matter (135 additional pages) and contains 250 more illustrations than the previous edition. Among the major additions are new chapters on chemotherapy and the correlation of surgery and prosthesis in orofacial deformities, plus a completely rewritten chapter on selection of anesthesia. The new illustrations accompanying the discussions of surgical treatment of periodontal disease, extractions, fractures, using extra- and intra-oral fixation, dislocation and many other features will be of particular interest.

* * *

New 1st Edition

SCHWEITZER—RESTORATIVE DENTISTRY

A Clinical Photographic Presentation

By JEROME M. SCHWEITZER, B.S., D.D.S., New York City. 511 pages; 1,014 illustrations. Price, $15.00.

An outstanding array of photographic material distinguishes this completely new, completely practical volume. The more than 1,000 illustrations represent accurate records of cases over many years. Illustrations and their correlated discussion are on facing pages. Thus, Dr. Schweitzer visualizes for the reader the particular problem under discussion.

This is a fact-filled book which every practicing dentist who does prosthetics will find invaluable.

USE COUPON TO ORDER

THE C. V. MOSBY CO.
3207 Washington Blvd., St. Louis 3, Mo.

_____ (Date)

Please send me a copy of:

__Winter's Oral Surgery, $15.00
__Mead's Oral Surgery, $15.00
__Attached is my check.
__Hogeboom's Practical Pedodontia, Price, $8.50
__Schweitzer's Restorative Dentistry, $15.00
__Charge my account.

Name_____ Address_____

City_____ State_____

those who breathe air contaminated with tobacco smoke over prolonged periods show an excessive liability to lung cancer."

Mr. Berger is entitled to his opinion; in fact, anyone is entitled to an opinion on the etiology of cancer. We should welcome all new theories and should direct our research toward them. Inasmuch as even the most accomplished biologists haven't an idea of the etiology of cancer, we owe it to mankind to evaluate every single theory even if it is new and seemingly fantastic.

If there was any merit in Mr. Berger's exposition, it would mean that to prevent cancer we would have to change our whole mode of living. He proposes that we shift to electricity wherever possible to do our heating, cooking, and manufacturing. He does not point out, however, that with the exception of electricity generated by water power, electricity comes from steam turbines which, in turn, are driven by coal which, in turn, gives off incomplete combustion products.

In any case, we should take the theory for what it is worth and encourage anybody else in this work who has thought deeply enough about cancer to develop a theory of any kind.

If Dentists Carried Union Cards . .

The next time you have a conversation with some union man, ask him what he would think if dentists went on strike, or physicians or nurses. You could expect immediately a look of injuredness. The idea seems preposterous to the union man that anyone who relieves pain and suffering should ever think of anyone but his patient. The union man expects time and a half for overtime whereas he expects us to work evenings and holidays for the regular fee schedule.

People would be screaming for something more severe than a Wagner-Murray-Dingell Bill if the hospitals and medical and dental offices closed for even one day. But the same people do not use very much pressure on the members of the Congress to correct the abuses of walkout strikes by people who are in the telephone system, the coal mines, and the manufacturing plants.

The shortsightedness of strikers has always been a source of mystery to me. Every striker must know that he is also a consumer, that if by his action he cuts down the production of goods and services, he will have less to consume himself and less money to buy consumers products. If strikers tie up the country's economy, they are spiting themselves as well as the rest of us. You would think that their own self-interest would be sharp enough to see this. For every ten cents an hour increase in pay that is received by the workers, they have an increase of about thirty cents an hour in living costs.

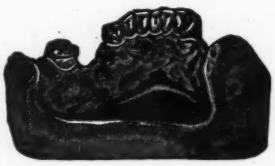
We dentists are among the last of the free agents. Let us keep it that way and have no traffic with irresponsible union leaders—except to oppose them at every turn.

* . . . . MALE PATIENT, AGE 68

The utility of a Ney Surveyor System designed case is indicated by the fact that, should the patient lose his molar abutment, this case will function perfectly with only minor changes. No redesign, no remake is necessary other than the replacement of the molar clasp with another supplied tooth.

The explanation lies with the back action clasps on cuspid and bicuspid. They are sufficient in themselves to hold free-end saddles securely against the tissue.

FOUR VIEWS OF MODEL SHOWING SURVEY LINES



DISTAL

MESIAL

LEFT BUCCAL

RIGHT BUCCAL

Twelve similar case histories are available in a new edition of "Building a Successful Partial Denture." Write for your copy.

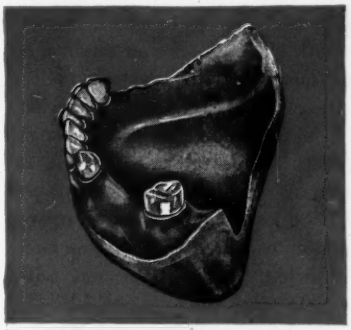
* Number Eighteen of a Series

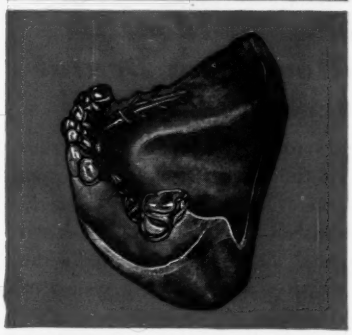
PUBLISHED BY

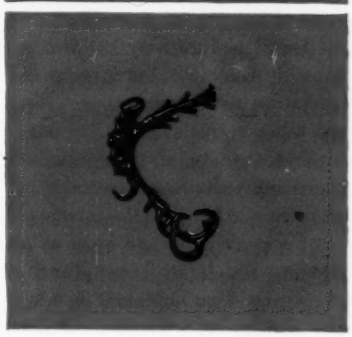
he lingual and mesial tilt of the molar
ves a typical ring clasp indication,
ith the reenforcing arm brought up on
e non-undercut side of tooth and tis-
e. Back action clasps are clearly indi-
ted by the undercut conditions on
spid and bicuspid. The arms of all
ree clasps are long and tapering and
ust be made of a material combining
eat strength with flexibility. Casting
olds such as NEY-ORO G-3 and
ALINEY #4 are ideal for this purpose.

lingual web is combined with the bar
give stability to the case and to brace
e anteriors. It is comfortable and
ean; there is not the customary pocket
etween continuous clasp and bar to
tch food. In the absence of an occlusal
st preparation of the right cuspid, the
ngual web is also an important sup-
orting element.

he casting accuracy of dental golds,
ith resulting fit, is another reason why
e patient wearing this Surveyor System
se will be a comfortable patient.



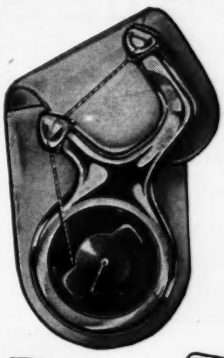




M. NEY COMPANY, HARTFORD 1, CONN. U.S.A.
ART OF NEY TECHNICAL SERVICE

NEY GOLD

NEW Flossy



Plastic Designs
6 Models 50c to $50.00
Safe way to clean between teeth with a bite
Suprise Introductory Assortment Dollar bill Postpaid

AMALGAMATOR
Immediate Delivery
Modernized-Smart design-Automatic. Startling new impact-capsule. No pestles, no wiggle, a master model only $50 with all accessories and VAX Amalgam. Get your order in. Amazing.

FLOSSY DENTAL CORP.
228 S. WABASH AVE. CHICAGO 4, ILL.

Push and Pull

When we are on the dispensing end of the dental instrument, our attitude is entirely different from what it is when we are on the receiving end. When we are acting in the role of operator, we are interested in how well we can perform the operation and how quickly. We are likely to forget about the human factor on the receiving end of the instrument. However, when we assume the role of a dental patient, we see the burs and stones and cutting instruments in a different light. We see a bur not as a certain number but as a cold steel thing that has potentialities of inflicting a lot of discomfort. We see a cutting instrument not as a chisel or a gingival margin trimmer or as a hoe or a hatchet but as a sharp, hostile knife that has within it the threat of tissue injury.

In operating, if we use a pushing, thrusting motion, we find that people react unfavorably. If, on the other hand, we use a pulling or withdrawing motion, we find that people show less anxiety and pain. I had observed these phenomena in patients but not until I sat on the receiving end of the dental instrument did I form a theory. The pushing, thrusting internally projected instrument constitutes a psychologic threat the same as a dagger poised in someone's hand, the same as the fangs of a serpent, the same as a gun pointed at the abdomen. All these physical agents endanger life when they thrust something into our tissues or project something into them. On the other hand, a withdrawal or pulling away operative stroke is eliminative and has within it the potentiality of freeing one from the threat of pain.

This theory has actual clinical merit. If we do not press down so hard on our burs, for example, but cut as much as possible on the withdrawal stroke, we will have happier patients. If we use whatever cutting motions we have as withdrawing

RIGIDEX NEEDLES

Still the Best

Now Available in all *Gauges and Lengths at Your Dental Depot

Points to Remember

1. **RUSTLESS STEEL**
Not affected by Iodine, salts, and many acids.

2. **SEAMLESS TUBING**
No seam to open upon sudden bending.

3. **RAZOR-SHARP POINT**
Ground and honed to a spearpoint which promotes smooth and painless penetration of tissue.

4. **CAN BE FLAMED**
Proper flaming will not injure RIGIDEX NEEDLES.

5. **UNIFORM WALL THICKNESS**
Secures rigidity and strength and eliminates weak spots.

6. **RIGID**
Easy to maintain in a straight line.

7. **NON-SLIP BALL**
Made of nickel-silver alloy.

8. **RESIST BREAKAGE**
Will bend to 45 degrees without breaking.

9. **HAND-FINISHED POINTS**
Finished by experienced hands, they are superior to machine-cut points.

10. **DO NOT CLOG**
Always a uniform and free flow of the solution.

*23, 25 and 27 Ga.
1", 1¼", 1⅝", 1⅞"
Lengths

Use the coupon on page 318 to order your supply TODAY, or ask for sample needle.

INTERSTATE DENTAL CO., INC.
220 West 42nd Street
NEW YORK 18, N. Y.

rather than as inserting ones, we will likewise have better psychologic results. It isn't any fun to have a dentist lean with all his force and might upon an instrument that he is actually thrusting into the tissues and with which he is endangering the internal integrity. No dental procedure is a happy one; but if patients can sit in the dental chair and submit to operative motions which are outgoing and withdrawing, dental treatment will be a little more pleasant.—E.J.R.

Personal Identification From Dental Records

SUGGESTIONS have been made from time to time that teeth may be used as a means of identification. In a recently published journal appears a method of dental identification. Actually the method does not provide a system of identification but only *assists* other methods of identification.

The dental picture may *confirm* a previous identification, but it requires interpretation by the dental surgeon just as other records made for purposes of identity require a specialist for their interpretation. But there is a vast difference between the interpretation of a positive record such as a fingerprint, which is a two-dimensional picture of an anatomic characteristic, and an exact interpretation of a two-dimensional chart representing a three-dimensional complex form, the dental apparatus.

The task is reduced to a somewhat simple procedure in a case where the dentist has a picture in his own mind of the patient's mouth and can relate that picture to certain signs upon a chart. Time is a factor, however, in such a reaction: The dentist's mental picture will be dimmed as this factor increases, even though a standard system of signs is used accurately to record existing dental states.

Five Main Groups

Granting that the enamel is relatively indestructible evidence, a tooth is useless as evidence if it cannot be identified as part of the individual. The system suggested, then, as the authors point out, is really one of

We Regret . . .

that we have been unable to supply the demand for this book.

Now Ready . . .

Second Printing

PSYCHOBIOLOGIC FOUNDATIONS IN DENTISTRY

By

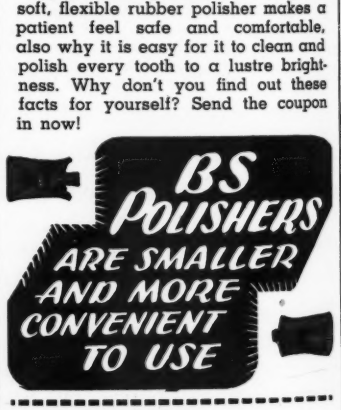
EDWARD J. RYAN, B.S., D.D.S.,
Editor of *Oral Hygiene* and *Dental Digest*,
Past President of the Chicago Dental Society

This important book gives the *practicing dentist* a short *readable* account for the first time of what he needs to know to institute agreeable dentist-patient relationships. 143 pages printed on a fine White Stonewall Eggshell paper, well bound in red Keratine Skiver book cloth $3.00

CHARLES C THOMAS • PUBLISHER
Springfield, Illinois

Others Have Tried BS POLISHERS Why Not You?

Many dentists have sent in the coupon below and found out why BS Polishers are preferred over many others. They can readily understand why this soft, flexible rubber polisher makes a patient feel safe and comfortable, also why it is easy for it to clean and polish every tooth to a lustre brightness. Why don't you find out these facts for yourself? Send the coupon in now!



Young Dental Mfg. Co.
St. Louis 8, Mo.

Gentlemen:
Without any obligation send us one of your BS POLISHERS — ABSOLUTELY FREE.

NAME.....
ADDRESS.....
CITY.....
STATE.....

classification of dental characteristics. As such it classifies individuals into five main groups:

1. Edentulous.
2. Dentulous without defects to the teeth.
3. Dentulous with defects to the teeth.
4. Partly edentulous without defects to the teeth.
5. Partly edentulous with defects to the teeth.

Such a classification appears to be the limit to which the system may be said to yield evidence of identity. With the use of machine sorting it is suggested that much value could be gained by organizations, such as insurance, industrial, and commercial groups employing large numbers on hazardous tasks, for they would have a ready means of identification. But unfortunately this is not so. *The only counterpart of the fingerprint system would be the establishment of a library of accurate mouth casts.* This would satisfy the requirements for the dental identification of all people except for those in the edentulous state.

Library of Mouth Casts

Such a proposition is unwieldy. It even suffers from the difficulty of constant changes which dental disease initiates in the surfaces of the teeth. As age and disease brought their changes, the value of the mouth casts would diminish until, at the edentulous stage, they were useless.

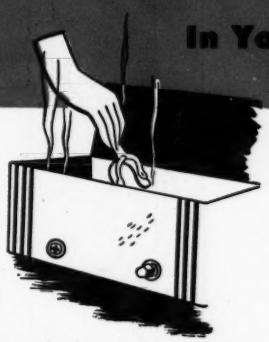
Even though no two dentitions are absolutely identical and the changes wrought in them are also different, the fact that changes constantly occur must limit the value of such a system; the best it can do is classify people on a dental basis. The dental surgeon with accurate records may, then, provide the final link in identification when all other tissues have been rendered indistinguishable.

Conclusion

Taking all the possible variabilities into account, it would seem that at present there is little possibility of using the dental state as an absolute means of identification. The dental surgeon should for his own conven-

NOW...INDIVIDUAL TRAYS IN TWO EASY STEPS...

In Your Own Office



1. Immerse in Hot Water

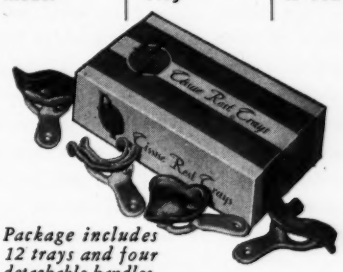
2. Adapt in the Mouth

INSTEAD OF THE USUAL FIVE STEPS	1 Preliminary Impression	2 Impression Delivered to Laboratory	3 Laboratory Pours a Model	4 Laboratory Makes a Tray	5 Tray Delivered to You

In making full impressions, you can now eliminate one visit by the patient, cut down chair time and do away with three steps that waste time and cost you money . . . all by using D-P "Tissue Rest" Trays.

After they are immersed in hot water, "Tissue Rest" Trays can be quickly adapted in the patient's mouth. Easily trimmed or adjusted while warm, they become rigid when chilled.

Intended for any full denture technic using cold materials, "Tissue Rest" Trays are especially designed for D-P Alginate or Three-In-One Cream.



Package includes 12 trays and four detachable handles, an assortment to fit any case.

Write for brochure on "Dry Mouth Technic" using alginates. Discover for yourself the simplicity, speed and remarkably accurate results obtainable.

DENTAL PERFECTION CO.
2323 West Washington Blvd.
Los Angeles 7, Calif.

The Bosworth Winglite

Presents Wing Bite X-Rays to the Greatest Advantage

The WINGLITE is an efficient aid to patient education; it helps to inform, remove skepticism, build confidence. Use this means to indicate cavities, the need of plastic linings, restoration of contact points, correction of overhanging margins, treatment for pyorrhea, recurrence of decay, etc. For rendering better dental service and definitely increasing your income, get a Winglite, today, through your dealer. Price $9.00.

HARRY J. BOSWORTH CO.
1315 SO. MICHIGAN AVE., CHICAGO

ience, however, maintain an accurate recording system which provides a speedy means of identifying the dental status of his patients.

From Editorial Department, *The Dental Journal of Australia* 18:417-418 (August) 1946.

Etiology of Dental Sequelae

C. O. SAPPINGTON, M. D.

MANY CHANGES in medical opinion concerning the relationship between dental sepsis and systemic diseases have occurred in the past twenty-five years. It is not yet understood just why all persons are not equally affected by dental sepsis, why dental infection may produce injurious systemic reactions in some people and not in others.

The entire subject presents problems of research which involve both animal experimentation and clinical observations on (1) the relationship between various kinds of bacteria; (2) the immunity and resistance of individuals, and (3) the production of specific subacute and chronic systemic lesions known as sequelae.

The author proposes the formation of a *medicodental research institute* to investigate this problem; also, to study auxiliary factors, including the ruling out of other foci of infection and other subordinate factors such as nutrition and pulpless teeth.

From Abstracts From Current Literature, *Occupational Medicine* 2:402-403 (October) 1946.

Announcement

The Fourth Annual Seminar for the Study and Practice of Dental Medicine will be held at the Ahwahnee Hotel, Yosemite Valley, California, October 19 to 24, according to an announcement by Doctor Hermann Becks, President of the Board of Directors and Professor of Dental Medicine at the University of California. The Seminar is sponsored by all the Pacific Coast Dental Associations.

Lectures will be combined with informal group discussions and question periods. These lectures will emphasize the application of the basic sciences to the practice of dentistry and will include such topics as: nutrition, enzymology, endocrine disturbances, virus diseases, and protein biology.

Among the speakers will be: Doctor William A. Albrecht, University of Missouri; Doctor Allan G. Brodie, Doctor Isaac Schour, and Doctor John B. Youmans, University of Illinois; Doctor Thomas Francis, Jr., Doctor Howard B. Lewis, and Doctor L. H. Newburgh, University of Michigan; and Doctor Gustav W. Rapp, Loyola University, Chicago.

Applicants are required to submit a case report. They must also have taken a postgraduate course, or its equivalent, in the basic sciences during the current year.

Executive Office
1618 *Ninth Avenue*
San Francisco 22, *California*

Fluorine Therapy

(*Continued from page* 285)

lution were applied at the beginning of the two-year period; therefore, the optimal number of applications has not yet been determined. Further findings from this study indicate that the treatment of the carious teeth reduces the liability to attack on additional tooth surfaces approximately twenty per cent.

Inasmuch as a child is erupting teeth for from 12 to 14 years, application of a two per cent sodium fluoride solution should be made whenever a new tooth surface erupts.

Q.—What reduction in the caries attack rate may be expected by the ingestion from birth to eight years of age of 1 part per million of fluoride in communal water supplies?

A.—The caries attack rate may be reduced approximately 60 per cent. This result is indicated by Arnold's studies of eight Chicago suburban communities ranging from .0 to 1.8 parts per million fluoride, using 2,832 selected white children ages 12 to 14 years. No toxic effects other than those on the teeth have ever been shown in endemic areas.

The manner in which fluoride reduces the caries attack rate is still hypothetical, but in Armstrong's studies there is a marked difference in the quantity of fluoride in the sound and carious teeth, whereas there is no difference in the amount of calcium, magnesium, and phosphorous. There is no indication that the structure of the teeth is altered by the ingestion of 1 part per million fluoride.

Q.—Does the ingestion of fluorine in bone meal flour reduce the caries attack rate?

A.—Although Harootian's studies showed a reduction in caries attack rate from the ingestion of fluoride in bone meal flour, little credence can be given to this experiment as the cases were poorly selected, no controls used, no bacteria counts taken, and no mention of diet made. The cases were too few in number and the period of observation was too short.

Q.—Do mouthwashes containing fluorine reduces the caries attack rate?

A.—There is little in the literature concerning this subject. Atkins reports an eighty-seven per cent reduction in lactobacillus counts among the persons on whom he experimented with an aqueous solution of sodium fluoride of 5 parts per million used as a mouthwash, as a gargle and on the toothbrush. However, he alternated his control and experimental groups, which cannot be considered a scientific practice.

Q.—Should fluorine be incorporated in dentifrices?

A.—According to the Council of Dental Therapeutics of the American Dental Association, here is no justification for the incorporation of fluoride in dentifrices.

—From *Journal of Dentistry for Children* 14:32 (First Quarter) 1947.

In your ORAL HYGIENE this month

The Child With a Crippled Face

Doctor Leon R. Kramer asks that every state dental society include orthodontic and prosthetic treatment for children with crippled faces in the Crippled Children's statutes of each state. This is a suggestion that will elicit encouraging response from any dentist who has been a self-conscious, awkward, problem child change to a happy, normal youngster after proper dental reconstruction.

★ ★ ★

"Why Should It Take Six Years to Make a Dentist?"—Doctor George Schneider advocates the special training of nondentists to treat school children who otherwise would receive no dental care. This article will arouse controversy and discussion. It is the author's hope that it will be a step toward achieving better dental health for the nation.

★ ★ ★

"Postscript from 'The Town Without a Toothache' "—This town is in Deaf Smith County, Texas—a section of the country well known to dentists because of the unusual dental health of its inhabitants. You will want to read this most recent report of Doctor George W. Heard.

★ ★ ★

"Occupational Hazards to Eyes in Dental Practice"—Eyestrain ranked first in the opinion of the dentists who responded to a recent Oral Hygiene poll on occupational hazards in dentistry. The article by Doctor H. Isabelle McGarry, an ophthalmologist, will be of special interest to all dentists.

"Preferences for Dental Veterans?"—Myron Weiss writes about the newly formed organization established to promote the interests of ex-Service dentists. You will not want to miss this article if you served under the caduceus.

★ ★ ★

Do you have a psychoneurotic patient? (Who hasn't?) . . . You will be amused and perhaps amazed at Doctor Joseph Murray's account of his experience with the lady with the "bronical" cough who could hear the buzzing in her daughter's ear!

★ ★ ★

"How Are Your Teeth, Doctor?"—Doctor Maurice J. Teitelbaum asks the question after observing one of his colleagues attending a postgraduate course on full denture technique in a noticeably edentulous condition. How *are* your teeth, Doctor?

★ ★ ★

"How to Buy a Camera"—Many dentists will be glad to have these suggestions on how to select a camera. Doctor J. A. Packtor gives the advice.

★ ★ ★

"Are You Selling Roentgenograms or Diagnosis?"—Doctor Alexander Weinberger gives a great deal of useful information about the roentgenogram as an aid to diagnosis.

★ ★ ★

"Equalizing the Tax Load"—Doctor Leonard A. Moress believes that the present law works hardship on the professional man and suggests a fairer tax program for professional groups.

Advertising Index

Ames Co., The W. V-B. 306
Austenal Laboratories, Inc. 317
Bosworth Co., Harry J. 313
Bristol-Myers Co. 274
Castle Co., Wilmot 319
Caulk Co., The L. D. 272
Columbus Dental Mfg. Co. 3rd cover
Cook-Waite Laboratories, Inc...267
Corega Chemical Co. 275
Dental Perfection Co. 313
Dentists' Supply Co., The..4th cover
Durallium Products Corp. 312
Eastman Kodak Co. 311
Flossy Dental Mfg. Co. 310
Hygienic Dental Rubber Co. 300
Ideal Tooth, Inc. 301-2-3-4
Interstate Dental Co., Inc. 310
Jelenko & Co., Inc., J. F. 314-15
Justi & Son, Inc., H. D. 273
Konformax Division, Permatex Co. 265
McKesson Appliance Co., The..306
Mosby Co., The C. V. 307
MuCol Company 300
Ney Co., The J. M. 308-09
Smith & Son Mfg. Co., Lee S. ...275
Squibb & Sons, E. R. 266
Universal Dental Co.....2nd cover
Vernon-Benshoff Co. 268-69
Warren-Teed Products Co., The..276
Williams Gold Refining Co., The.320
Young Dental Mfg. Co. 310